

Appendix U Memorandum of Agreement Between the Federal Highway Administration and the California State Historic Preservation Officer Regarding the Mid County Parkway Project

This Appendix contains the following:

Memorandum of Agreement Between the Federal Highway Administration and the California State Historic Preservation Officer Regarding the Mid County Parkway Project

January 28, 2015 letters from the California Department of Transportation District 8 to the Concurring Parties to the Memorandum of Agreement

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**MEMORANDUM OF AGREEMENT BETWEEN THE FEDERAL HIGHWAY
ADMINISTRATION AND THE CALIFORNIA STATE HISTORIC
PRESERVATION OFFICER REGARDING THE MID COUNTY PARKWAY
PROJECT**

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(OCTOBER 2014)
MEMORANDUM OF AGREEMENT
BETWEEN
THE FEDERAL HIGHWAY ADMINISTRATION
AND THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER
REGARDING THE MID COUNTY PARKWAY PROJECT
RIVERSIDE COUNTY, CALIFORNIA

WHEREAS, the Riverside County Transportation Commission (RCTC or Applicant) is proposing to build the Mid County Parkway Project (MCP Project or Undertaking), a 16-mile freeway corridor extending from Interstate 215 (I-215) on the west to State Route 79 (SR-79) on the east, near and along the Ramona Expressway, in Riverside County, California; and

WHEREAS, the Federal Highway Administration (FHWA) is the lead federal agency for the purpose of reviewing the impacts on historic properties under Section 106 of the National Historic Preservation Act of 1966 (NHPA) (16 U.S.C. 470f) and its implementing regulations, 36 Code of Federal Regulations (CFR) Part 800; and

WHEREAS, the FHWA has determined that the MCP Project, which is described in Attachment D to this Memorandum of Agreement (MOA), will have an adverse effect on archaeological Site 33-16598, which is determined to be eligible for inclusion in the National Register of Historic Places (National Register) and on archaeological Sites 33-19862, 33-19863, 33-19864, and 33-19866, which are assumed eligible for the National Register for purposes of this Undertaking and, therefore, are historic properties as defined at 36 CFR Part 800.16(1)(I); and

WHEREAS, the FHWA has consulted with the California State Historic Preservation Officer (SHPO) pursuant to 36 CFR Part 800, and notified the Advisory Council on Historic Preservation (ACHP) of the adverse effect finding (Findings of Effect) pursuant to 36 CFR Part 800.6(a)(1); and

WHEREAS, the FHWA has consulted on the Undertaking with the SHPO, and has invited them to participate in the development and execution of this MOA; and

WHEREAS, the FHWA, in consultation with the SHPO, has thoroughly considered alternatives to the Undertaking, has determined that the Undertaking's adverse effects cannot be avoided due to statutory and regulatory constraints on the design, and that implementation of the measures set forth in Stipulation IV of this MOA will satisfactorily take into account the Undertaking's adverse effects on the historic properties; and

WHEREAS, the California Department of Transportation (Caltrans) and the Applicant (have participated in the consultation regarding the effects of the Undertaking on historic properties and have been invited to sign this MOA as Invited Signatories; and

WHEREAS, the FHWA has consulted with the Agua Caliente Band of Cahuilla Indians, the Cahuilla Band of Indians, the Gabrieleno/Tongva San Gabriel Band of Mission Indians, the Gabrielino Tongva Nation, the Morongo Band of Mission Indians, the Pechanga Band of Luiseño Indians, the Ramona Band of Cahuilla, the San Manuel Band of Mission Indians, and

the Soboba Band of Luiseño Indians (Consulting Tribes), for which archaeological Sites 33-16598, 33-19862, 33-19863, 33-19864, and 33-19866 have cultural significance, and the Consulting Tribes have participated in the consultation process and have been invited to concur on this MOA; and

WHEREAS, Section 106 requires federal agencies to consult with any Indian tribe that attaches religious or cultural significance to historic properties that may be affected by an undertaking. This requirement affirms the knowledge and expertise regarding their traditions, cultures, and artifacts that Indian tribes possess that is unique and cannot be gained through scientific or academic resources. As such, the Parties to this MOA acknowledge that the Consulting Tribes hold such expertise and will accord them with due respect and give such expertise the weight it deserves in making determinations and decisions concerning historic properties impacted by the MCP Project; and

WHEREAS, in accordance with 36 CFR Part 800.6(a)(1), the FHWA has notified the ACHP of its adverse effect determination with specified documentation and, by letter dated July 18, 2014, the ACHP has chosen not to participate in the consultation pursuant to 36 CFR Part 800.6(a)(1)(iii); and

WHEREAS, by signing this MOA, each Signatory or Concurring Party does not signify that the party approves of the Undertaking, but rather that the provisions of the MOA are an appropriate means to resolve adverse effects on historic properties in the event that the Undertaking obtains all required approvals and is implemented.

NOW, THEREFORE, the FHWA and the SHPO agree that if the Undertaking proceeds, the Undertaking shall be implemented in accordance with the following stipulations in order to take into account the effects of the Undertaking on historic properties, and further agree that these stipulations shall govern the Undertaking and all of its parts until this MOA expires or is terminated.

STIPULATIONS

The FHWA shall ensure that the following measures are implemented:

I. DEFINITIONS

The definitions provided at 36 CFR Part 800.16 are applicable throughout this MOA. A copy of the definitions is included in Attachment A and is described below.

- **Signatory parties** have the sole authority to execute, amend, or terminate the MOA.
- **Invited signatory parties** have the same rights to terminate or amend the MOA as the other signatories.
- **Concurring parties** signing the MOA do so to acknowledge their agreement or concurrence with the MOA, but have no legal authority under the MOA to terminate or amend the MOA.

II. PROFESSIONAL QUALIFICATIONS AND STANDARDS

- A. Professional Qualifications.** The FHWA shall ensure that all historic preservation work carried out pursuant to this MOA is completed by or under the direct supervision of the person or persons, meeting at a minimum the Secretary of the Interior's *Professionally Qualified Standards* (48 Federal Register [FR] 44738-447-39, September 29, 1983) (PQS) in the appropriate disciplines. However, nothing in this Stipulation shall be interpreted to preclude any agent or contractor thereof from using persons who do not meet the PQS, provided they are directly supervised by persons who do meet the PQS.
- B. Documentation Standards.** The FHWA shall ensure that all final cultural resource reports resulting from actions pursuant to this MOA are designed to meet the documentation requirements as required under 36 CFR Part 800 and that such reports are responsive to contemporary professional standards, and are in accordance with the First Amended Section 106 Programmatic Agreement executed in January 2014 (PA) and the Caltrans *Standard Environmental Handbook, Volume 2, Cultural Resources*.

III. AREA OF POTENTIAL EFFECTS

The Area of Potential Effects (APE) for the Undertaking is depicted in Attachment B to the *Findings of Effect, Mid County Parkway Project, Riverside County, California*, November 2012, and is provided as Attachment B to this MOA.

IV. RESOLUTION OF ADVERSE EFFECTS TO HISTORIC PROPERTIES

- A.** The RCTC, in consultation with FHWA, Caltrans, SHPO, and the Consulting Tribes shall prepare a Cultural Landscape Study of western Riverside County focused on the region surrounding the MCP Project APE. An annotated outline of the required study is provided as Attachment C and specifies that the study will provide a synthesis of the prehistory and ethnography of western Riverside County, with a focus on the portions of the Perris and San Jacinto Valleys that surround the MCP Project APE, and develop an improved prehistoric/historic context for the vicinity. The annotated outline specifies that the Consulting Tribes will be invited to participate in the development of the required study. The Consulting Tribes' participation and consultation during the development of the Landscape Study will be guided by the provisions in Attachment C. A draft Cultural Landscape Study will be submitted to the Consulting Tribes for a thirty (30)-day review and comment period. The FHWA shall consider all comments from the Consulting Tribes within thirty (30) calendar days of receipt to conduct consultation on any issues stemming from the comments and before its final approval of the Cultural Landscape Study. The RCTC will submit the Draft Cultural Landscape Study and any comments from the Consulting Tribes to the Signatories to this MOA for a forty-five (45)-day review and comment period. Copies of all comments received will be provided to the FHWA. The Cultural Landscape Study will be completed prior to the start of any construction activities east of Redlands Avenue, including activities that would directly affect Sites 33-16598, 33-19862, 33-19863, 33-19864, and 33-19866.

- B. Prior to construction activities at Sites 33-19862, 33-19863, 33-19864, and 33-19866, the RCTC will conduct residue analysis from each bedrock milling surface within the four (4) sites. The results will be reported in the Final Monitoring Report and incorporated into the Cultural Landscape Study as appropriate.

V. IMPLEMENTATION OF THE ARCHAEOLOGICAL DISCOVERY AND MONITORING PLAN

- A. The RCTC, in consultation with FHWA, Caltrans, SHPO, and the Consulting Tribes, has prepared a Discovery and Monitoring Plan (DMP) (Attachment D). The DMP establishes procedures for archaeological resource monitoring/observation, and procedures for temporarily halting or redirecting work to permit identification, sampling, and evaluation of archaeological resources. The DMP also describes the Protocols to be followed for the Environmentally Sensitive Areas (ESAs) established for the MCP Project. The ESAs have been established to prevent inadvertent adverse effects to historic properties and cultural resources during project construction.
- B. The RCTC submitted the DMP to the Signatories and Consulting Tribes of this MOA for review and comment. Copies of all comments received were provided to the FHWA and the SHPO. Consulting Tribes of this agreement were given the opportunity to review and comment on the DMP at their discretion. FHWA considered all comments within thirty (30) calendar days of receipt to conclude consultation on any issues stemming from the comments before its final approval of the DMP.
- C. The RCTC, as the MCP Project Applicant, will pay for at least one (1) archaeological monitor and at least one (1) Native American monitor to be present during construction activities at each construction locale situated in native soils as determined by RCTC's Resident Engineer for construction and the project archaeologist. Each monitoring team, composed of an archaeological and a Native American monitor, will work with one piece of heavy machinery and its operator at all times when native soil is being moved, including brush removal. Should there be more than one piece of heavy machinery at a construction locale that is working in native soils, additional monitors will be added. Native soils include all areas that have not been previously developed. These areas will be determined by the project archaeologist. Monitoring will continue until excavation has ceased or bedrock is reached. The RCTC will determine the Tribe responsible for monitoring various construction locales, and this may involve rotational monitoring among Consulting Tribes. Where a Tribe is not designated as the Native American Monitor in a specific location, the Tribe's monitors are welcome to monitor that location on an unpaid basis. The RCTC will ensure that a periodic archaeological report containing the period monitoring logs is completed by the project archaeologist and submitted to all Consulting Tribes as will be described in the Draft Monitoring Agreement. The report will thoroughly detail all associated activities, discoveries, and updates within the period. The report will be sent via mail and/or email. Provisions for tribal and archaeological monitoring are included in the DMP (Attachment D).

Prior to construction, a Draft Monitoring Agreement will be prepared as a subsequent document to this MOA. The Draft Monitoring Agreement will provide the details regarding how the monitoring will proceed. Aspects of the Native American monitoring

program will be listed and described. These will include, but are not limited to, the following: a) which Tribes will be participating in the monitoring; b) the locations within the APE where the monitoring will occur; and c) further details concerning the rotation of Native American monitors as discussed above. Consulting Tribes that choose to participate in the monitoring will have the opportunity to provide input on the Draft Monitoring Agreement before it becomes finalized by the Transportation Agencies.

A Native American monitor cannot be substituted for an archaeological monitor; however, this does not preclude a Native American monitor from serving as an archaeological monitor if they meet the professional qualification standards under the PA.

D. The Discovery of Human Remains

The FHWA shall implement the plan of action entitled “Mid County Parkway Burial Treatment Agreement” appended to the DMP as Appendix D, regarding the management and disposition of Native American burials, human remains, cremations, and associated grave goods.

E. Curation of Archaeological Collections

Per the current Caltrans standards and protocols concerning the disposition of artifacts, all recovered materials resulting from construction monitoring, prior archaeological excavations, and surveys as provided for in this MOA will be curated by an institution that meets the standards set forth in 36 CFR Part 79, as well as the State of California “Guidelines for the Curation of Archaeological Collections.” The FHWA understands that there is ongoing discussion between the Transportation Agencies and consulting Tribes regarding the possibility of reburying artifacts instead of curating them. Therefore, should the protocol for curation change, a future agreement regarding the reburial of artifacts, developed in consultation with the SHPO, may be executed by the FHWA, with the Tribes who are consulting parties to the MOA, and reburial of the recovered material may occur. Curation and/or reburial agreements will be executed prior to construction of the MCP Project, and the consulting Tribes will have the opportunity to provide input.

VI. NATIVE AMERICAN CONSULTATION

The involved Tribes shall be consulted throughout construction monitoring in regards to any known cultural resources, historic properties, or the discovery of any unanticipated Native American archaeological resources affected by the Undertaking. Consultation with the consulting Tribes will continue pursuant to the confidential Protocols developed by each Tribe and will continue until the Undertaking has been completed and all stipulations of the MOA are fulfilled.

VII. ADMINISTRATIVE PROVISIONS

- A. Confidentiality.** The parties to this MOA acknowledge that all cultural resources and historic properties covered by this MOA are subject to the provisions of Section 304 of the NHPA of 1966 and Section 6254.10 of the California Government Code (Public Records Act), relating to the disclosure of the nature and location of archaeological sites

and cultural resources and, having so acknowledged, will ensure that all actions and documentation prescribed by this MOA are consistent with Section 304 of the NHPA of 1966 and Section 6254.10 of the California Government Code and shall ensure that all sensitive information regarding the nature and location of cultural resources is to be protected to the fullest extent available under the law.

B. Dispute Resolution.

- i. Should any Signatory or Concurring Party object in writing with regard to the implementation of the stipulations of this MOA, or to any documentation prepared in accordance with, and subject to the terms of this MOA, the FHWA will consult with the disputing party/parties within thirty (30) calendar days of receipt of the dispute. The FHWA will immediately notify the other Signatories and Concurring Parties of the dispute and will consult further with such parties to resolve the dispute. The FHWA will honor the request of any other Signatory or Concurring Party to participate in the consultation and will take any comments provided by such parties into account.
- ii. If the FHWA determines within fifteen (15) calendar days of receipt of comments and/or any consultations that such dispute cannot be resolved, the FHWA will forward all documentation relevant to the dispute to the ACHP, including its proposed response to the dispute, with the expectation that the ACHP will, within forty-five (45) days after receipt of all pertinent documentation:
 1. Advise the FHWA that the ACHP concurs in the FHWA's proposed response to the dispute, whereupon FHWA will respond to the dispute accordingly. The dispute shall thereby be resolved; or
 2. Provide the FHWA with recommendations, which the FHWA shall take into account in reaching a final decision regarding its response to the objection. The Signatories will be advised of the ACHP comments prior to the FHWA decision. The dispute shall thereby be resolved; or
 3. Notify the FHWA that the dispute will be referred to the ACHP for comment pursuant to 36 CFR Part 800.7(c), and proceed to refer the dispute and comment. The Signatories will be advised of the ACHP comments prior to the FHWA decision. The FHWA shall take the resulting comment into account in accordance with 36 CFR Part 800.7(c)(4) and Section 110(l) of the NHPA. The dispute shall thereby be resolved.
- iii. Should the ACHP not exercise one of the above options within forty-five (45) calendar days after receipt of all pertinent documentation, the FHWA's responsibilities under Section 106 of the NHPA are fulfilled upon implementation of the proposed response to the objection. The dispute shall thereby be resolved.
- iv. The FHWA shall take into account any ACHP recommendation or comment provided in accordance with this stipulation with reference only to the subject of

the dispute; the FHWA's responsibility to carry out all actions under this MOA that are not the subject of the dispute shall remain unchanged.

- v. At any time during implementation of the measures stipulated in this MOA, should a dispute in writing pertaining to this MOA or the effect of the Undertaking on historic properties be raised by a member of the public, the FHWA shall notify the parties to this MOA in writing and take the dispute into account, consulting with the disputing party and, should the disputing party or any of the other parties so request in writing, with any of the parties to this MOA to resolve the dispute. Parties shall have fifteen (15) calendar days to consult and/or provide comments. Within fifteen (15) calendar days following closure of the comment period, the FHWA will render a decision regarding the dispute and respond to the disputing party. The SHPO will be provided a copy of all comments.
 - vi. The FHWA will promptly notify within fifteen (15) calendar days all the Signatories and Concurring Parties of this MOA, and the ACHP, if the ACHP has commented, of its decision in writing, including a copy of the response to the disputing party. The FHWA's decision regarding resolution of the dispute will be final.
 - vii. Following issuance of its final decision, the FHWA may authorize the action subject to dispute hereunder to proceed in accordance with the terms of that decision. The implementation of the decision will not change any of the other terms of the agreement.
 - viii. After reviewing the FHWA's decision, the Signatories, if in disagreement with the decision, may propose that the MOA be terminated.
- C. **Amendments.** Any Signatory to this agreement may propose to the FHWA that the MOA be amended, whereupon the FHWA shall notify the other Signatories and Concurring Parties to this MOA in writing to state the reason for the proposed amendment. 36 CFR Part 800.6(c)(1) shall govern the execution of any such amendment. The amendment will be effective on the date a copy signed by the Signatory Parties is filed with the ACHP. If an amendment cannot be agreed upon, the Dispute Resolution process in Stipulation B.vii will be followed.
- D. **Termination.** If the FHWA cannot implement the terms of this MOA, or the SHPO or the ACHP determine that the MOA is not being properly implemented, any of the Signatories may propose that the MOA be terminated. The Signatory proposing termination will notify in writing all other Signatories and Consulting Parties to this MOA and explain the reason for the proposed termination. Within fifteen (15) calendar days, all parties will consult to seek an alternative to the termination. Should this consultation fail, the FHWA or SHPO may terminate this MOA by notifying in writing all other Signatories and Concurring Parties.

If this MOA is terminated, the FHWA will either consult in accordance with 36 CFR Parts 800.6 to develop and execute a new MOA or request the comments of the ACHP pursuant to 36 CFR Parts 800.7(a).

E. Duration of the MOA.

- i. This MOA will be in effect through the implementation of the Undertaking, following the conditions specified in Section VII.F, and will terminate and have no further force or effect when the FHWA, in consultation with the other Signatories and Consulting Parties, determines that the terms of this MOA have been fulfilled in a satisfactory manner.
- ii. On or before December 1 of each year until the Signatories, Invited Signatories, and Concurring Parties agree in writing that the terms of this MOA have been fulfilled, the Applicant shall provide an annual letter report to the Signatories, Invited Signatories, and Concurring Parties addressing the following topics:
 1. Progress in constructing the Undertaking; and
 2. Any problems or unexpected issues encountered during the year; and
 3. Any changes that the Applicant believes should be made in implementation of this agreement; and
 4. Any cultural resources identified and their treatment; and
 5. Review of monitoring schedule and effectiveness; and
 6. Cultural Landscape Study progress if construction has not yet begun; and
 7. Final Archaeological Monitoring Report progress.
- iii. All Parties to this agreement shall review the annual report and provide written comments to the FHWA within sixty (60)-calendar days.
- iv. At the request of any party to this MOA, or at least on an annual basis, the FHWA shall ensure that one or more meetings are held to facilitate review and comment, to resolve questions, or to resolve adverse comments.
- v. Based on this review, the Signatories to this agreement shall determine whether this MOA shall continue in force, be amended, or be terminated. The FHWA will notify all Consulting Parties of the Signatories' determination in writing.

- F. Effective Date of this MOA.** This MOA will take effect on the date that it is executed by all of the Signatory Parties and Invited Signatories. This MOA will expire if the terms are not implemented within eight (8) years from the date of its execution unless the Signatories agree to an extension. Six (6) months prior to the date of such expiration, should it appear that the terms of the MOA will not be implemented by such a date, the FHWA will consult with the other Consulting Parties to determine the appropriate actions

in order to remain in compliance with Section 106 of the NHPA. The FHWA will notify all Consulting Parties of the Signatories' determination in writing.

EXECUTION of this MOA by the FHWA and the SHPO, its transmittal to the ACHP in accordance with 36 CFR Part 800.6(b)(1)(iv), and subsequent implementation of its terms, shall evidence, pursuant to 36 CFR Part 800.6(c), that this MOA is an agreement with the ACHP for purposes of Section 110(l) of the NHPA, and shall further evidence that the FHWA has afforded the ACHP an opportunity to comment on the Undertaking and its effects on historic properties, and that the FHWA has taken into account the effects of the Undertaking on historic properties.

SIGNATORY PARTIES:

Federal Highway Administration

FOR
By

Title: Division Administrator

Date

10-30-14

California State Historic Preservation Officer

By

Date

10/30/14

Title: State Historic Preservation Officer

INVITED SIGNATORIES:

California Department of Transportation District 8

By

Date

11/24/14

Title: District Director

Riverside County Transportation Commission

By

Date

12/3/14

Title: Executive Director

CONCURRING PARTIES:

Agua Caliente Band of Cahuilla Indians

By _____ Date _____
Title: _____

Cahuilla Band of Indians

By _____ Date _____
Title: _____

Gabrieleno/Tongva San Gabriel Band of Mission Indians

By _____ Date _____
Title: _____

Gabrielino Tongva Nation

By _____ Date _____
Title: _____

Morongo Band of Mission Indians

By _____ Date _____
Title: _____

Pechanga Band of Luiseño Indians

By _____ Date _____
Title: _____

Ramona Band of Cahuilla

By _____ Date _____
Title: _____

San Manuel Band of Mission Indians

By _____ Date _____
Title: _____

Soboba Band of Luiseño Indians

By _____ Date _____
Title: _____

ATTACHMENT A
36 CFR PART 800.16 DEFINITIONS

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Code of Federal Regulations

Title 36 - Parks, Forests, and Public Property

Volume: 3

Date: 2011-07-01

Original Date: 2011-07-01

Title: Section 800.16 - Definitions.

Context: Title 36 - Parks, Forests, and Public Property. CHAPTER VIII - ADVISORY COUNCIL ON HISTORIC PRESERVATION. PART 800 - PROTECTION OF HISTORIC PROPERTIES.

Subpart C - Program Alternatives.

§ 800.16 Definitions.

- (a) *Act* means the National Historic Preservation Act of 1966, as amended, 16 U.S.C. 470-470w-6.
- (b) *Agency* means agency as defined in 5 U.S.C. 551.
- (c) *Approval of the expenditure of funds* means any final agency decision authorizing or permitting the expenditure of Federal funds or financial assistance on an undertaking, including any agency decision that may be subject to an administrative appeal.
- (d) *Area of potential effects* means the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking.
- (e) *Comment* means the findings and recommendations of the Council formally provided in writing to the head of a Federal agency under section 106.
- (f) *Consultation* means the process of seeking, discussing, and considering the views of other participants, and, where feasible, seeking agreement with them regarding matters arising in the section 106 process. The Secretary's "Standards and Guidelines for Federal Agency Preservation Programs pursuant to the National Historic Preservation Act" provide further guidance on consultation.
- (g) *Council* means the Advisory Council on Historic Preservation or a Council member or employee designated to act for the Council.
- (h) *Day* or *days* means calendar days.
- (i) *Effect* means alteration to the characteristics of a historic property qualifying it for inclusion in or eligibility for the National Register.
- (j) *Foreclosure* means an action taken by an agency official that effectively precludes the Council from providing comments which the agency official can meaningfully consider prior to the approval of the undertaking.
- (k) *Head of the agency* means the chief official of the Federal agency responsible for all aspects of the agency's actions. If a State, local, or tribal government has assumed or has been delegated responsibility for section 106 compliance, the head of that unit of government shall be considered the head of the agency.
- (l)(1) *Historic property* means any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and

located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria.

(2) The term *eligible for inclusion in the National Register* includes both properties formally determined as such in accordance with regulations of the Secretary of the Interior and all other properties that meet the National Register criteria.

(m) *Indian tribe* means an Indian tribe, band, nation, or other organized group or community, including a native village, regional corporation, or village corporation, as those terms are defined in section 3 of the Alaska Native Claims Settlement Act (43 U.S.C. 1602), which is recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians.

(n) *Local government* means a city, county, parish, township, municipality, borough, or other general purpose political subdivision of a State.

(o) *Memorandum of agreement* means the document that records the terms and conditions agreed upon to resolve the adverse effects of an undertaking upon historic properties.

(p) *National Historic Landmark* means a historic property that the Secretary of the Interior has designated a National Historic Landmark.

(q) *National Register* means the National Register of Historic Places maintained by the Secretary of the Interior.

(r) *National Register criteria* means the criteria established by the Secretary of the Interior for use in evaluating the eligibility of properties for the National Register (36 CFR part 60).

(s)(1) *Native Hawaiian organization* means any organization which serves and represents the interests of Native Hawaiians; has as a primary and stated purpose the provision of services to Native Hawaiians; and has demonstrated expertise in aspects of historic preservation that are significant to Native Hawaiians.

(2) *Native Hawaiian* means any individual who is a descendant of the aboriginal people who, prior to 1778, occupied and exercised sovereignty in the area that now constitutes the State of Hawaii.

(t) *Programmatic agreement* means a document that records the terms and conditions agreed upon to resolve the potential adverse effects of a Federal agency program, complex undertaking or other situations in accordance with § 800.14(b).

(u) *Secretary* means the Secretary of the Interior acting through the Director of the National Park Service except where otherwise specified.

(v) *State Historic Preservation Officer (SHPO)* means the official appointed or designated pursuant to section 101(b)(1) of the act to administer the State historic preservation program or a representative designated to act for the State historic preservation officer.

(w) *Tribal Historic Preservation Officer (THPO)* means the tribal official appointed by the tribe's chief governing authority or designated by a tribal ordinance or preservation program who has assumed the responsibilities of the SHPO for purposes of section 106 compliance on tribal lands in accordance with section 101(d)(2) of the act.

(x) *Tribal lands* means all lands within the exterior boundaries of any Indian reservation and all dependent Indian communities.

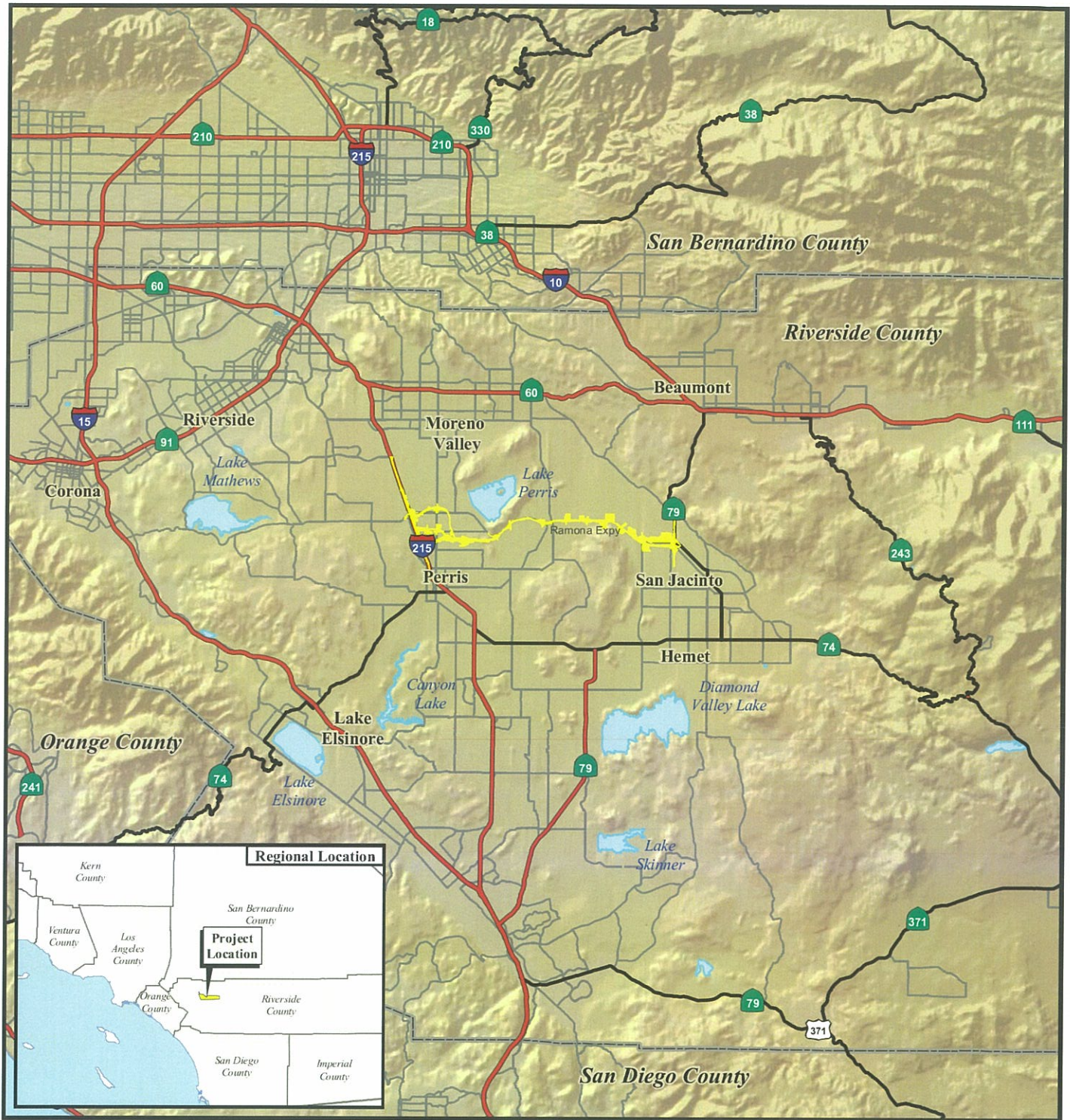
(y) *Undertaking* means a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency; those carried out with Federal financial assistance; and those requiring a Federal permit, license or approval.

(z) *Senior policy official* means the senior policy level official designated by the head of the agency pursuant to section 3(e) of Executive Order 13287.

[65 FR 77725, Dec. 12, 2000, as amended at 69 FR 40555, July 6, 2004]

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ATTACHMENT B
MAPS



LEGEND

Md County Parkway Project Area

MAP 1

SOURCE: ESRI (2008); TBM (2010), Jacobs Engineering (02/2011)



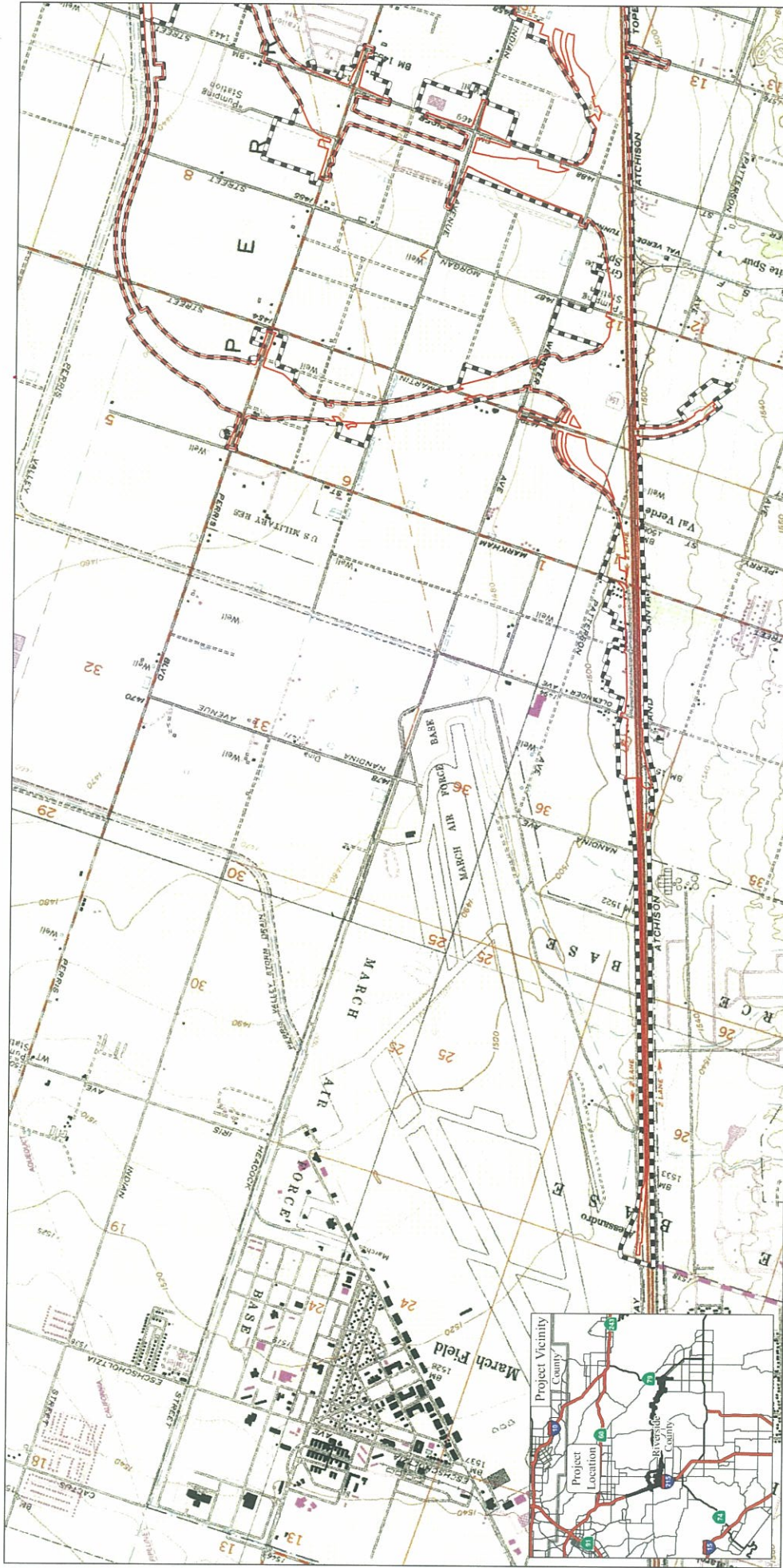
0 3.75 7.5 Miles

Project Vicinity and Project Area

08-RIV-MCP PM 0.0/16.3; 08-RIV-215 PM 28.0/34.3
EA 08-0F3200 (PN 0800000125)



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MAP 2
SHEET 1 of 4



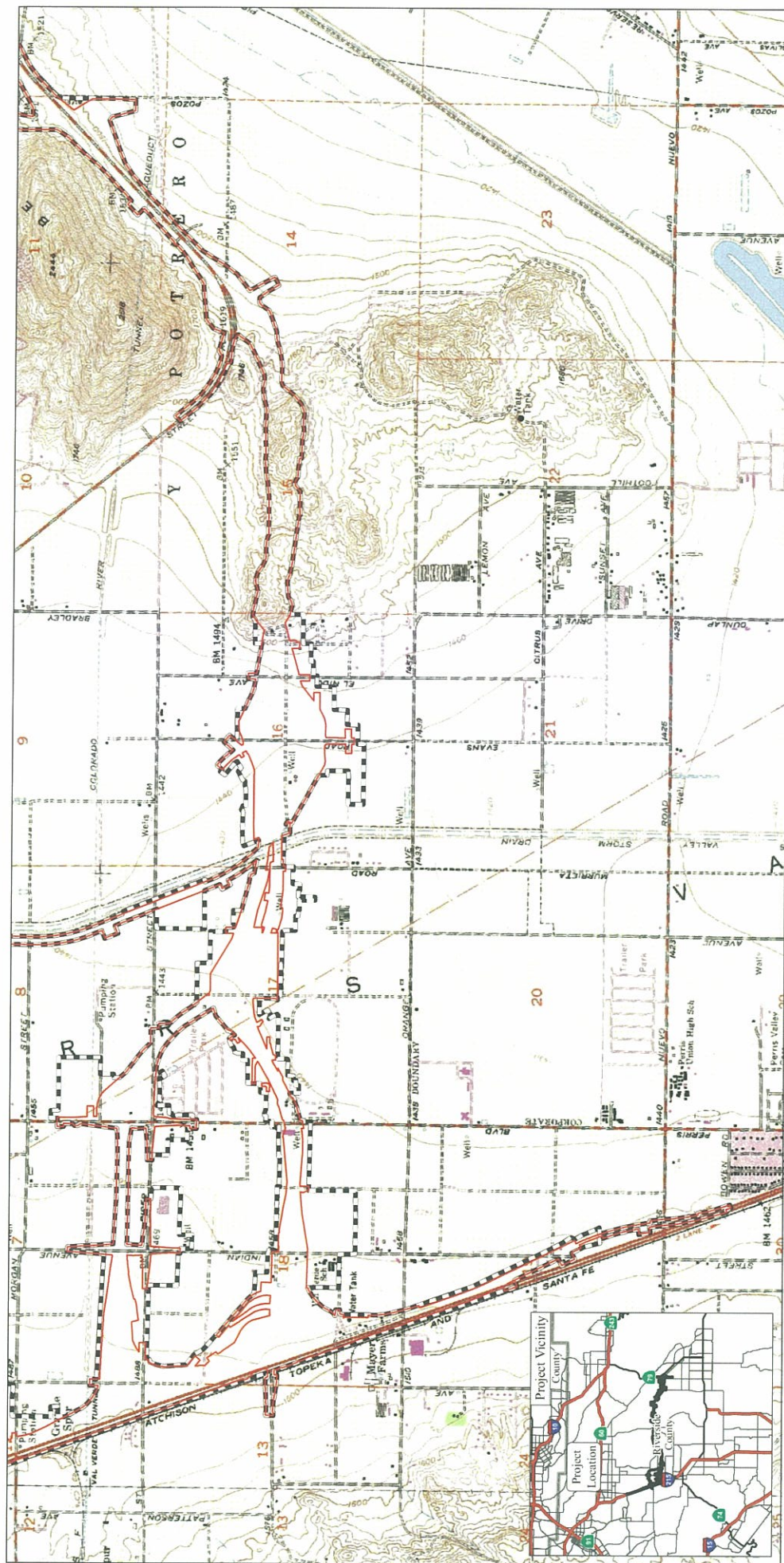
Project Location Map
08-RIV-MCP PN 001631-08 RIV-215 PN 28.0043
EA 08-0F-2000 PN 08000001251

SOURCE: USGS 7.5 QUAD - LAKEVIEW (79), PHARRIS (79), RIVERSIDE EAST (80), SAN JACINTO (79), STEEL PEAK (73).



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- LEGEND
- Proposed Right of Way
 - Mid County Parkway Project Area



MAP 2
SHEET 2 of 4



Project Location Map
08-RIV-MCP PN 0.0/16.3: 08-RIV-215 PN 28.0/34.3
EA 08-0F-5200 PN 0800000125

SOURCE: USGS 7.5 QUAD - LAKEVIEW (79), PERRIS (79), RIVERSIDE EAST (80), SAN JACINTO (79), STEEL PEAK (73).

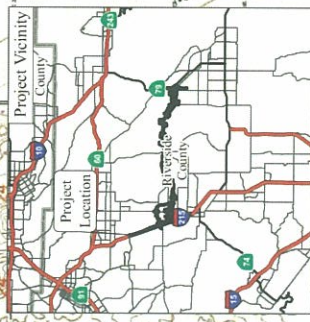
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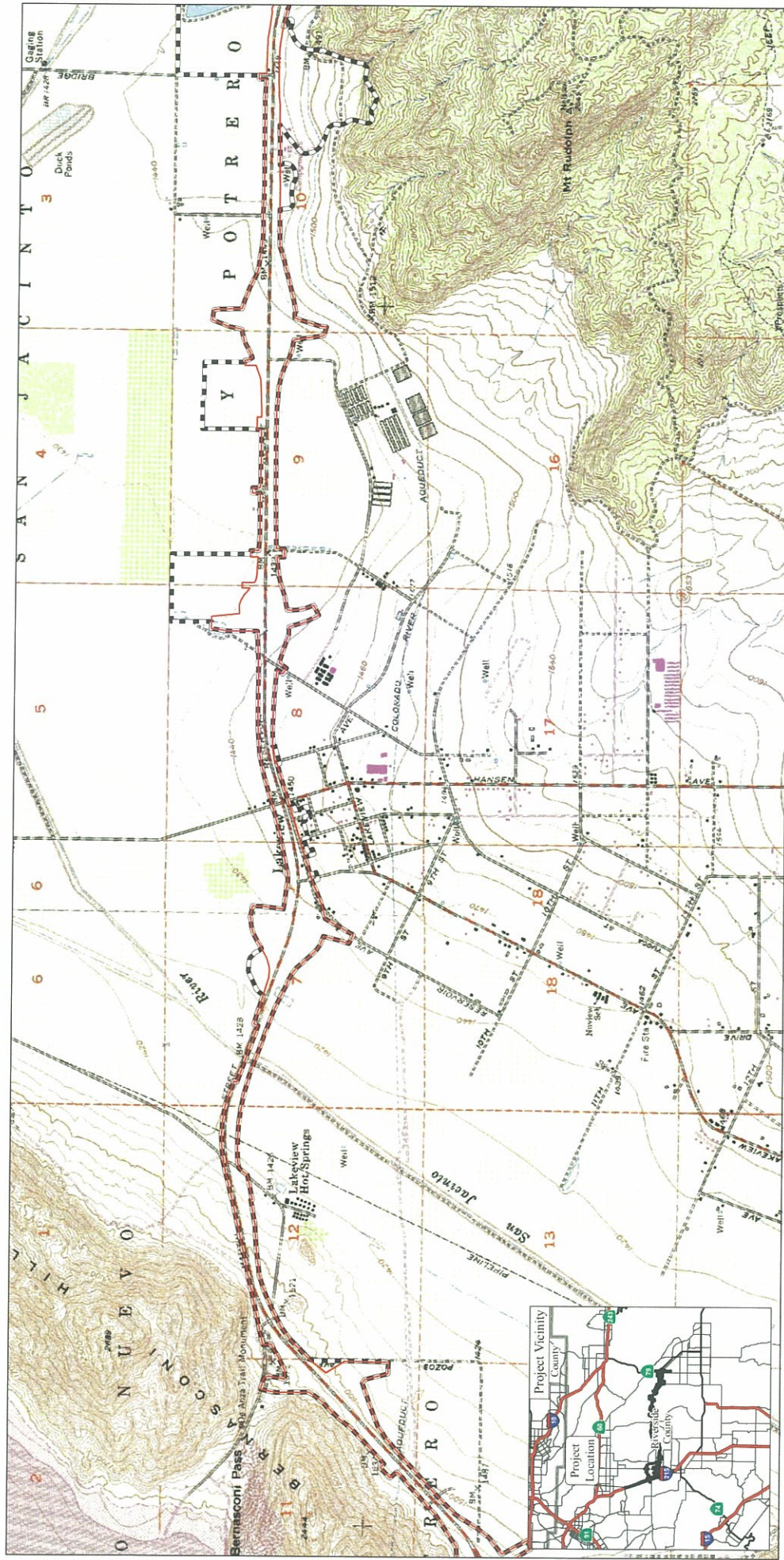


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LEGEND

- Proposed Right of Way
- Mid County Parkway Project Area





MAP 2
SHEET 3 of 4



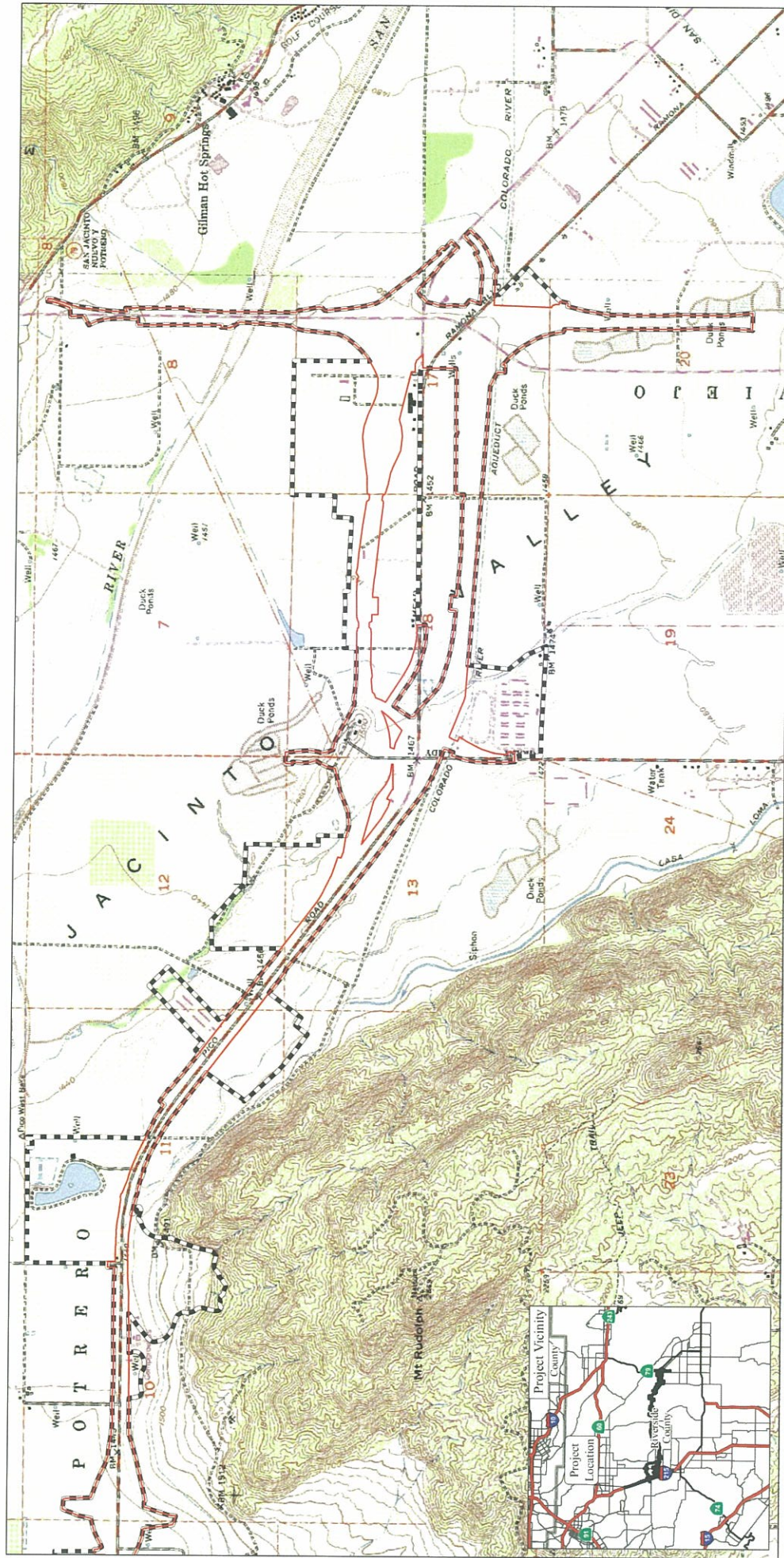
Project Location Map

08-RIV-MCP PM 0.0016.3: 08-RIV-215 PM 280034.3
EA 08-0F-5200 (PN 0800000125)

SOURCE: USGS 7.5-QUAD - LAKEVIEW (79), PERRIS (79), RIVERSIDE EAST (80), SAN JACINTO (79), STEEL PEAK (73).



- LEGEND
- Proposed Right of Way
 - Md County Parkway Project Area



MAP 2
SHEET 4 of 4



Project Location Map
08-RIV-MCP PM 0.0163; 08-RIV-215 PM 28.0343
EA 08-0F-5200 (PN 080000125)

SOURCE: USGS 7.5-QUAD: LAKEVIEW (79), PERRIS (79), RIVERSIDE EAST (80), SAN JACINTO (79), STEEL PEAK (73).

0 1000 2000 FEET

E:\JCV531\GIS Mod\Cultural Draft\figures\Map2_ProjLocation.mxd (5/11/2011)

ATTACHMENT C
CULTURAL LANDSCAPE STUDY ANNOTATED OUTLINE

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AN OUTLINE FOR A CULTURAL LANDSCAPE STUDY OF WESTERN RIVERSIDE COUNTY WITH A FOCUS ON PORTIONS OF THE PERRIS AND SAN JACINTO VALLEYS

A cultural landscape study will be prepared for the Mid County Parkway (MCP) project's impact to historic properties. The study will utilize the extensive database for prehistoric archaeological sites that was compiled during the various phases of the MCP cultural studies and its precursor, the Community and Environmental Transportation Acceptability Process (CETAP) Hemet to Corona/Lake Elsinore project and take into account any new information gathered from construction and development of the various phases of the project. The study will also contain an ethnographic component that will examine contemporary published and unpublished primary ethnographic information, as well as other available information. The participating Tribes will have continuous involvement and input throughout the duration of the study. The study will be completed prior to the disturbance of sites due to the MCP project.

The study will provide a synthesis of the prehistory and ethnography of western Riverside County, with a focus on the portions of the Perris and San Jacinto Valleys that surround the MCP Area of Potential Effects (APE), and develop an improved historic context for the vicinity. As requested by the California State Historic Preservation Officer (SHPO) in a letter dated September 18, 2012 (provided in Appendix D), one specific goal of the study will be to determine if there are National Register of Historic Places (National Register) eligible cultural landscapes/districts in the study area and whether they extend into the MCP APE. Four bedrock milling (BRM) sites (Sites 33-19862, 33-19863, 33-19864, and 33-19866) within the MCP APE have been assumed eligible for the project. One goal of the study will be to examine these sites in a broader cultural landscape setting. As requested by the SHPO letter, the study will determine whether the sites are part of a National Register-eligible district and, if so, whether they contribute to the district's significance.

The cultural landscape study will also attempt to identify places of cultural and spiritual significance to Native American Tribes that have historical affinity to the project vicinity and to identify the ways in which the Tribes used the area prehistorically and which areas may be of continued use and considered as Traditional Cultural Properties (TCPs) or traditional landscapes. Consultation for the MCP project and other projects in the area has shown that local Native American Tribes recommend ethnographic research to aid archaeologists and other decision-makers with the identification of places of traditional use or of cultural and religious significance to their Tribes and to aid with developing a more complete understanding of the impacts to cultural resources by public infrastructure and private land development projects in this portion of Riverside County. This recommended ethnographic research is supported by the SHPO, and the information will be integrated with the archaeological information to create a more comprehensive view of the cultural landscape of the area.

The outline of the cultural landscape study is provided below.

I. SUMMARY OF FINDINGS

This section will summarize the results of the study.

II. INTRODUCTION

The introduction will provide an overview of the purpose and goals of the study. This will include providing an overview of the cultural/ethnographic landscape of western Riverside County and a focused and detailed examination of the cultural/ethnographic landscape of the study area. The focused study area will be defined as consisting of portions of the Perris and San Jacinto Valleys between Interstate 215 (I-215) on the west and State Route 79 (SR-79) on the east and including the mountainous area of Bernasconi Hills and Lake Perris.

The study is intended to address the request of the SHPO letter dated September 18, 2012. The SHPO letter requested that additional research be conducted to determine whether four individual BRM milling slick sites (Sites 33-19862, 33-19863, 33-19864, and 33-19866) within the APE are part of a National Register-eligible district, and if so, whether they contribute to the district's significance. This study is intended to address the request by the SHPO and will address the adverse effects to the four BRM sites located within the MCP APE, as well as for Site 33-16598.

III. HISTORIC LANDSCAPES

This section defines historic landscapes. A brief description is provided here based on the guidance provided in the California Department of Transportation (Caltrans) document *General Guidelines for Identifying and Evaluating Historic Landscapes* (1999).

Historic landscapes can possess historical values coming from the full range of human history, including ethnography and traditional cultural values. They come under the existing National Register categories of either sites or districts. Larger landscapes having substantial acreage and a number of buildings, structures, sites, or objects are designated as districts. Districts may contain individual sites, districts, buildings, structures, and objects within their boundaries, including smaller landscapes, some of which could be individually eligible, and other sites and features that may not be individually eligible. Districts often contain substantial areas of vegetation or open space and may contain natural features that embody significant historical values through past use or physical character. A landscape containing multiple resources is generally classified as a district by the National Register.

A geographic area that has undergone past modification by human design or use in an identifiable pattern; is the relatively unaltered site of a significant event; or is a natural landscape with important traditional cultural values could be a historic landscape. If the modifications, event, or values are over 50 years old, and the landscape possesses both significance and integrity in accordance with National Register criteria, the landscape may be eligible for the National Register.

A. Cultural Landscapes

Cultural landscapes consider cultural resources in the current project area within a larger framework. The National Park Service defines a cultural landscape as "... a geographic area (including both cultural and natural resources and the wildlife or domestic animals therein), associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values" (National Preservation Institute 2013). Within this definition, there are four categories of cultural landscapes to consider: historic designed landscape; historic vernacular landscape; historic sites; and ethnographic landscapes. The appropriate treatment of cultural landscapes includes the identification and preservation of significant archaeological resources. The resources within the landscape need to be examined in relation to the other elements within the cultural landscape.

B. Ethnographic Landscapes

Ethnographic landscapes contain natural and cultural resources that existing people associated with these features define as heritage resources. Although they must consist of tangible properties, these landscapes may possess significant intangible qualities more likely to emerge in the course of conducting research and interviews and less easily recognized on the ground. These landscapes can also include individual components, such as small plant communities or ceremonial grounds. Ethnographic landscapes do not have to be eligible for the National Register in order to be recognized and, more importantly, are identified and defined by members of the cultural groups who are associated with them.

C. Traditional Cultural Properties

In 1990, the term Traditional Cultural Property (TCP) was formally introduced in National Register Bulletin 38, Guidelines for Evaluating and Documenting Traditional Cultural Properties. A TCP can be generally defined as a property of traditional religious and/or cultural importance that may be eligible for inclusion on the National Register because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community.

For National Register applications, the word "culture" is understood to mean the traditions, beliefs, practices, lifeways, arts, crafts, and social institutions of any community. One kind of cultural significance a property may possess, and that may make it eligible for inclusion in the National Register, is traditional cultural significance. "Traditional" in this context refers to those beliefs, customs, and practices of a living community of people that have been passed down through the generations, usually orally or through practice. Therefore, the traditional cultural significance of a historic property is a significance that is derived from the role the property plays in a community's historically rooted beliefs, customs, and practices.

IV. RESEARCH METHODS

This section describes how the information used in the study will be obtained.

A. Records Search

During the course of the MCP cultural studies and earlier studies conducted for CETAP, a substantial database of prehistoric cultural resources within the MCP project vicinity was compiled. This will be the primary source of the archaeological data used to define any potential cultural landscapes within the study area. This database will be augmented with additional records searches at the Eastern Information Center, as well as information provided by the Tribes regarding the locations of cultural resources and ethnographic locations.

B. Ethnographic Study

The ethnographic study will include a review of published and unpublished ethnographic information. In addition, the ethnographic study will include input from the consulting Tribes regarding the ethnographic use of the area. Specific questions the study will attempt to address include:

- Are there named places within the study area?
- What groups utilized the area?
- During what periods did different groups use the region?
- How late was food processing conducted on BRM features?
- Are there known ethnographic gathering/procurement areas in the study area?
- Are there known trails in the study area?
- What is the significance of the ceremonial areas at Site 33-16598?
- During the Rancho period, (1) were entire families present or just ranch workers, and (2) where did they live and how did they subsist?

To answer such questions, it will be necessary to consult primary ethnographies, including the extensive research done by J.P. Harrington in the early 20th century; conduct linguistic and place name studies; analyze baptismal records; and analyze songs and stories of the various Tribes in the region for place names, ceremonies, and rituals associated with plant gathering and food processing. Interviews with Tribal members, including elders who wish to participate and offer information, will be conducted.

V. MODERN ENVIRONMENTAL CONTEXT

This section provides a description of the natural environmental setting of the study area. The section will include descriptions of the existing geology, physiography, hydrology, and biology of the study area. The discussions for hydrology and biology will be of particular concern as the study will attempt to relate the locations of individual sites to environmental factors in the landscape such as proximity to water, floral communities, or other utilized resources.

VI. PALEOENVIRONMENTAL CONTEXT

Paleoenvironmental research will be examined to attempt to reconstruct the vegetation succession of the area, with particular attention to the Late Prehistoric Period, as well as the hydrology and overall biological context of the area in prehistory.

VII. PREHISTORIC CONTEXT

This section provides an overview of the prehistory of the study area.

VIII. ETHNOGRAPHIC CONTEXT

This section provides an overview of the ethnographic setting of the study area based on published material. Original ethnographic research is not included in this section but is provided in Section XI.A of this outline. This section will be similar to the ethnography sections contained in the *MCP Historic Property Survey Report* (HPSR) (June 2012).

IX. PREVIOUS RESEARCH IN WESTERN RIVERSIDE COUNTY

This section will discuss some of the significant archaeological studies that have been conducted in western Riverside County, including the studies conducted for the SR-79 Realignment Project, Lake Perris, Diamond Valley Lake, and The Villages of Lakeview.

X. AN OVERVIEW OF THE CULTURAL LANDSCAPE OF WESTERN RIVERSIDE COUNTY

This section provides an overview of the cultural landscape of western Riverside County. The section will synthesize the results of the extensive data compiled during the MCP studies, including the pre-MCP CETAP studies. The overall prehistoric cultural landscape, as manifested by archaeological remains, will be described regarding the site types present in the landscape and their relative abundance. Ethnographic data will be included to provide additional background on important named villages, trails, and other aspects of the cultural landscape. This is not intended to be a comprehensive analysis of the cultural landscape of all of western Riverside County as that is beyond the scope of this document and the mitigation for the adverse effects of the MCP project. It is intended to be an overview of the general elements present in the landscape (i.e., known villages, trails, resource procurement areas, and archaeological sites).

A. Property Types Within the Landscape

This section will discuss the various property types present within the landscape. These may include, but are not limited to, the following:

- Habitation sites;
- Artifact scatters;

- Rock art sites;
- Rock shelters;
- BRM sites with artifacts;
- BRM sites without artifacts;
- Quarries;
- Trails;
- Procurement areas; and
- Ritual/ceremonial areas.

XI. THE CULTURAL LANDSCAPE OF THE MCP STUDY AREA

A. Ethnographic Study Results

This section will describe the results of the ethnographic research, including:

- Place names;
- Evidence for which groups utilized the area;
- When different groups were using the region;
- Food processing on BRM features including the uses of different milling feature morphologies;
- Trails;
- Gathering/procurement areas;
- The significance of the ceremonial areas at Site 33-16598;
- Local Indian Resistance to U.S. government policies and practices;
- Life during the Rancho period; and
- Traditional or sacred places.

B. Spatial Organization and Land Use Patterns within the Study Area

This section will discuss the spatial organization of sites within the landscape. Habitation sites will be examined against a suite of environmental factors such as landform, elevation, water, cold springs, hot springs, bedrock outcrops, rock art, biotic communities, trails, viewshed, and other habitation sites to determine what roles these have in determining the locations of habitation sites. The spatial relationship between the various site types and habitation sites will then be examined. Ideally, individual resource processing sites (BRMs) can be linked to habitation sites and the broader patterns of land use from the residential bases to the resource procurement and processing sites and special use sites discerned by examining these resources at the landscape level. The physical spatial relationships will be integrated with the ethnographic data and findings to create a comprehensive understanding of the interactions between the various elements of the landscape.

C. Chronological Control

This section discusses the methods used to place sites in a chronological framework and the difficulties involved in determining the age of many site types, including BRM sites.

D. Late Period Habitation Sites within the Study Area

Relation to Environmental and Other Factors (Landform, Elevation, Water, Cold Springs, Hot Springs, Bedrock Outcrops, Rock Art Biotic Communities, Viewshed, and Other Habitation Sites). This section discusses the relation of habitation sites identified as Late Period to the suite of variables listed above to attempt to determine whether any of these variables are determining factors in the location of this site type. The latter portion of the Late Period (the last approximately 500 years) is when most of the BRM slicks in the region are thought to have been created. The study will examine this hypothesis.

E. Other Habitation Sites within the Study Area

Relation to Environmental Factors (Landform, Water, Bedrock Outcrops, and Biotic Communities). This section discusses the relation of habitation sites that are not identified as Late Period to the suite of environmental variables listed above to attempt to determine whether any of these variables are determining factors in the location of this site type.

Relation of Various Resource Types to and within Habitation Sites. This section discusses the relation of the various resource types to habitation sites to discern whether there are discernible patterns related to such factors as the distance of sites from a residential site location. They include the following:

- Artifact scatters;
- Rock art sites;
- Rock shelters;
- BRM sites with artifacts;
- BRM sites without artifacts;
- Trails;
- Procurement areas; and
- Ceremonial areas.

F. Research Themes for Various Site Types

This section describes various research themes to which various site types can contribute.

The *MCP Archaeological Evaluation Report* (2012) lists numerous research domains to which sites in the MCP vicinity can potentially contribute based on archaeological data. These include, but are not limited to, the following:

- Settlement patterns;
- Chronology;
- Site structure and function;
- Site formation processes;
- Subsistence base;
- Trade and economic exchange;
- Ceremony; and
- Gendered behaviors.

Integration of the archaeological data with the ethnographic, cultural, geologic, hydrologic, and biological/natural data can then provide a more comprehensive view of the role various site types have in the overall cultural landscape.

G. Visual Character and Intangible Qualities

This section will discuss the visual character and other qualities of the landscape that may affect the integrity of the landscape, such as historical grazing, agricultural use, and modern development. Assuming that one character-defining element of the cultural landscape would be the resources that were being extracted and processed, the study will need to focus especially on the biotic reconstruction of what it may have looked like when the sites were used, and what plants/biotic zones are prominent now. It will also need to examine whether the plant communities used by the Tribes retain integrity as defined by the Tribes.

XII. DISTRICTS/CULTURAL LANDSCAPES IDENTIFIED IN THE STUDY AREA

This section will describe any districts/cultural landscapes identified in the study area. The study will use the guidance provided in the Caltrans document *General Guidelines for Identifying and Evaluating Historic Landscapes* (1999). It is anticipated that much of this section will be devoted to the description of a potential district located in the vicinity of the four BRM sites (Sites 33-19862, 33-19863, 33-19864, and 33-19866). Preliminary research has determined that it is likely that a well-defined cultural landscape/archaeological district encompasses the Bernasconi Hills/Lake Perris area and includes these four sites.

This section will address the request by the SHPO, in the letter dated September 18, 2012, to determine whether National Register-eligible cultural landscapes/districts are present in the study area and whether they extend into the MCP APE. As requested by the SHPO, the study will determine whether the four BRM sites listed above are part of a National Register-eligible district and, if so, whether they contribute to the district's significance.

A. Bernasconi Hills-Lake Perris District

Preliminary research has determined that it is likely that a well-defined district/cultural landscape encompasses the Bernasconi Hills/Lake Perris area and includes the four BRM sites listed above. If so, the elements of the district will be discussed in detail along with the land use patterns and relationships of the various site types examined, as previously discussed in Section XI.

B. Statement of Significance

The National Register criteria will be applied to any districts/landscapes identified, and the elements of integrity will be discussed. If any National Register-eligible landscape is identified, the boundaries will be defined and the contributing and noncontributing elements will be described.

XIII. CONCLUSIONS

This section will summarize and describe landscape-level conclusions that were derived from the analysis. The findings of the study will be summarized and will list any cultural landscapes identified and whether any are eligible for the National Register.

A. An Improved Prehistoric/Ethnographic Context and Management Considerations for Bedrock Milling Sites within this Context

This section will synthesize the results of the study and present an improved prehistoric/ethnographic context for the area. This section will then discuss potential ways to improve treatment/management of BRM sites, which are the most common resource type in western Riverside County, and potentially propose an improved viewpoint for researchers and decision-makers who must evaluate the importance of these sites in regard to the larger land-use patterns found within western Riverside County.

XIV. REFERENCES

XV. APPENDICES

- A. Photographs
- B. Maps
- C. Inventory Forms (if appropriate)
- D. Other Attachments (SHPO Letter)
- E. Native American Consultation/Correspondence
- F. Personnel Qualifications for Principal Investigator and Ethnographer/Linguist

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ATTACHMENT D
DISCOVERY AND MONITORING PLAN

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DISCOVERY AND MONITORING PLAN FOR THE MID COUNTY PARKWAY

MID COUNTY PARKWAY
RIVERSIDE COUNTY, CALIFORNIA

CALTRANS DISTRICT 8

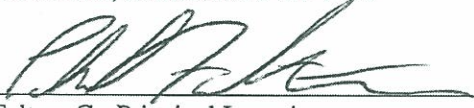
E.A. 08-0F3200 (PN 0800000125)
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CONSULTANTS NATIVE AMERICAN CULTURAL, RELIGIOUS, AND BURIAL SITES

1.0 INTRODUCTION

The Federal Highway Administration (FHWA) and the Riverside County Transportation Commission (RCTC), in cooperation with the California Department of Transportation (Caltrans) District 8, the County of Riverside (County), the City of San Jacinto, and the City of Perris, propose to construct the Mid County Parkway (MCP), a new highway project in western Riverside County, California. The project area is located in western Riverside County, primarily along or parallel to the existing Ramona Expressway. In order to identify historic properties within the area of potential effects (APE) as required by 36 Code of Federal Regulations (CFR) Part 800, the regulations implementing the National Historic Preservation Act of 1966, as amended (NHPA) and similar requirements under the California Environmental Quality Act (CEQA), the entire APE has been inventoried for cultural resources.

A total of six archaeological resources were evaluated for significance within the MCP APE. These resources include four milling stations without artifacts, one prehistoric multi-use site, and one historical archaeological resource. One bedrock milling site without artifacts is located adjacent to the APE and will be designated an Environmentally Sensitive Area (ESA).

1.1 SITE 33-16598

Of the six archaeological properties evaluated in the APE, one property (Site 33-16598) is eligible for the National Register of Historic Places (National Register) and the California Register of Historical Resources (California Register) under Criteria A/1, C/3, and D/4. The right of way to be acquired includes a noncontributing portion of the site under Criteria D/4, and the portion of Site 33-16598 located outside of the right of way will be designated an ESA. However, the direct impact to the northernmost 2.6 acres (ac) of Site 33-16598 is an adverse effect under Criteria A/1, based in part on Tribal comments regarding the site.

The northeastern 2.6 ac (3.3 percent) of Site 33-16598 will be directly impacted by the MCP. In the area of Site 33-16598, the MCP will consist of the placement of fill, which will involve overexcavation to a depth of approximately 2 feet (ft) below current grade. Overexcavation is necessary to stabilize the fill material that is placed on top of the existing soils. This depth of impact is roughly equal to the depth of the current agricultural plow zone. The area that will be affected is highly disturbed and does not contribute to the site eligibility for the National Register and California Register under Criterion D/4.

While the portion of the site subject to direct impacts does not contain intact archaeological deposits, it does have the potential to contain artifacts considered sacred by the Tribes. Three artifacts considered by the Tribes to be sacred objects were identified during the Phase II testing and evaluation of the portion of the site within the MCP proposed right of way. These items were reburied outside of the proposed right of way.

1.2 REMAINDER OF THE MCP CORRIDOR

The four milling stations without artifacts within the APE (Sites 33-19862, 33-19863, 33-19864, and 33-19866) are assumed eligible for the National Register for the MCP project. The single historical archaeological resource (Site 33-19865) is not eligible for either the National Register or the California Register. Based on the surface geology and the locations of archaeological sites, the entire MCP corridor is considered sensitive for buried archaeological resources. Geologic mapping indicates three types of Holocene sediments (10,000 years ago to the present) will be crossed by the build alternatives. In addition, areas mapped as late to middle Pleistocene sediments (10,000 to 300,000 years ago) are crossed by the build alternatives. While these areas are mapped as Pleistocene age sediments, they include the entire alluvial fan portion of Site 33-16598, where deeply buried archaeological deposits have been documented (Cannon and Lerch 2007; Lerch and Cannon 2008). The MCP also traverses upland areas of igneous bedrock with shallow sediments. While these areas are considered less sensitive for buried archaeological materials, they are also the areas where the bedrock milling sites (Sites 33-19862, 33-19863, 33-19864, and 33-19866) were identified during the MCP studies. While the MCP studies did not identify any buried archaeological material at these sites, the possibility of encountering buried archaeological materials during construction of the MCP does exist.

One bedrock milling site (Site 33-3653) is located adjacent to the area of direct impacts and is designated an ESA to prevent inadvertent impacts during project construction.

1.3 PURPOSE

This Discovery and Monitoring Plan (DMP) has been prepared to ensure that construction of the MCP freeway is in compliance with the *First Amended Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California* (Section 106 PA) dated January 2014. Implementation of this DMP also fulfills Stipulation V of the project Memorandum of Agreement (MOA). This DMP was completed according to the standards set forth in the *Caltrans Environmental Handbook, Volume 2, Cultural Resources* (June, 2014).

Implementation of the DMP will ensure that any potential adverse effects to cultural resources and historic properties are resolved in a timely manner. Implementation of the DMP will also ensure that cultural materials of significance both archaeologically and to the Tribes are recovered from Site 3-16598 during construction of the MCP. In addition, implementation of the DMP will ensure that the ESAs at Sites 33-3653, 33-16598, and an area east of Bernasconi Road, just outside of the APE for the MCP project, that has been determined to be sensitive through tribal consultation, are not inadvertently impacted by the project.

2.0 PROJECT DESCRIPTION

2.1 PROJECT LOCATION AND DESCRIPTION

The FHWA and RCTC, in cooperation with Caltrans District 8, the County of Riverside, the City of San Jacinto, and the City of Perris, propose to construct the MCP project, a new highway project in Riverside County, California. The project area is located in western Riverside County, primarily along or parallel to the existing Ramona Expressway. The MCP project will serve as a major west-east connection within western Riverside County. The proposed action would adopt an MCP project alignment and construct a major, limited-access freeway to meet current and projected 2040 travel demand from Interstate 215 (I-215) on the west to State Route 79 (SR-79) on the east. Project vicinity (Map 1) and location maps (Map 2) are included in Appendix A, Maps.

2.2 AREA OF POTENTIAL EFFECTS

The MCP APE includes the existing and proposed right of way, and adjacent areas that may be subject to indirect effects such as visual and audible changes. The area of direct impacts is the horizontal and vertical area proposed for potential ground-disturbing activities, including staging, brush clearing, clearing, grubbing, and weed abatement activities. The area within the APE that will not be directly impacted by construction is referred to as the area of indirect impacts. The MCP project has the potential to affect historic properties in the area of direct impacts because the project includes ground-disturbing activities such as trenching, grading, cutting, filling, and potentially blasting.

The entirety of Site 33-16598 (78.26 ac) is included on the MCP APE. The portion of Site 33-16598 within the area of direct impacts is 2.6 ac (3.3 percent of the site). Site 33-16598, in relation to the MCP APE and area of direct impacts, is depicted on Map 3 (Attachment A), Sheets 65, 66, and 68. In the area of Site 33-16598, the MCP project will be elevated on fill approximately 10–15 ft above current grade. In order to stabilize the fill material that is placed on top of the existing soils, overexcavation to a depth of approximately 2 ft below current grade will be required.

Five other archaeological resources (Sites 33-19862, 33-19863, 33-19864, 33-19865, and 33-19866) are located within the MCP APE. The four bedrock milling sites within the APE (Sites 33-19862, 33-19863, 33-19864, and 33-19866) are assumed eligible for the National Register for the MCP project. The single historical archaeological resource (Site 33-19865) is not eligible for either the National Register or the California Register. These sites in relation to the MCP APE are depicted on Map 3 (Appendix A), Sheets 25, 44, 47, 49, and 52.

One site adjacent to the area of direct impacts (Site 33-3653) is designated an ESA. The relation of this site to the MCP APE is depicted on Map 3 (Appendix A), Sheet 52.

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3.0 ARCHAEOLOGICAL SENSITIVITY AND RATIONALE FOR DISCOVERY PLAN

3.1 ARCHAEOLOGICAL RESOURCES IN AND ADJACENT TO THE MCP AREA OF DIRECT IMPACTS

Six previously recorded archaeological resources have been identified within the area of direct impacts. These resources include four milling stations without artifacts (Sites 33-19862, 33-19863, 33-19864, and 33-19866), one prehistoric multi-use site (Site 33-16598), and one historical archaeological resource (Site 33-19865). One bedrock milling site without artifacts (Site 33-3653) is located adjacent to the area of direct impacts and will be designated an ESA. The specific APE map sheets showing these sites and their relation to the area of direct impacts and APE are included in Appendix A. The site records for these resources are appended to this document in Appendix B. Of the six archaeological properties evaluated in the APE, one property (Site 33-16598) is eligible for the National Register and the California Register under Criteria A/1, C/3, and D/4. The four bedrock milling sites within the APE (Sites 33-19862, 33-19863, 33-19864, and 33-19866) are assumed eligible for the National Register for the MCP project. The historical archaeological site (Site 33-19865) is not eligible for the National Register or California Register under any criteria.

3.2 HISTORIC PROPERTIES IN THE MCP APE

There were seven properties identified and evaluated in the MCP APE, and one of these properties (Site 33-16598) is National Register-eligible under Criteria A, C, and D. Four properties (Sites 33-19862, 33-19863, 33-19864, and 33-19866) are assumed eligible for the MCP project. A brief history for Site 33-16598 is discussed below with an emphasis on the characteristics that qualify it for the National Register. Descriptions of the four bedrock milling sites that are assumed eligible for the National Register for the MCP project follow the discussion of Site 33-16598.

Of the remaining two sites, historical archaeological resource Site 33-19865 was determined ineligible for the National Register; the California State Historic Preservation Officer (SHPO) concurred with this determination in a letter dated September 18, 2012 (Appendix E). Site 33-3653 is assumed eligible for the National Register. Adverse effects to this property will be avoided through the use of an ESA. The SHPO concurred with these findings in a letter dated September 18, 2012 (Appendix E).

3.2.1 Site 33-16598

Site 33-16598 (as a whole) is a large multi-use site that measures approximately 336,000 square meters and encompasses several previously recorded sites. The site was determined eligible for the National Register under Criteria A, C, and D. The SHPO concurred with this finding in a letter dated September 18, 2012 (Appendix E). The central and southern portions of the site (outside of the area of direct impacts of all MCP Build Alternatives) contain 5 rock shelters, including one with 199 cupules

located inside the shelter, 6 monochrome red rock art panels, 31 milling features with 69 mortars and 61 milling slicks, at least 2 dark midden deposits, and scattered surface artifacts, including ground and flaked stone and other habitation debris. Archaeological excavations were conducted at Locus D (located approximately 350 ft south of the area of direct impacts) by Applied Earthworks in 1998 that identified subsurface deposits found to depths of up to 16 ft below the surface, and data collected by both SRI and Applied Earthworks during the trenching programs indicate that the deposits could be deeper in some areas of the site (Cannon and Lerch 2007). At least 15 features were recorded at Locus D, including discrete concentrations of hearth material and ground stone artifact caches, numerous ground stone items, stone spheres, flaked stone tools and cores, ochre, worked bone, an abalone shell pendant, faunal material, fire-affected rock, and approximately 30 pieces of low-fired ceramics, some of which may have been portions of biomorphic figurines or tapered cylindrical objects.

Trenching and excavation at Site 33-16598 by SRI and Applied Earthworks has uncovered what appear to be several levels of occupation. Radiocarbon dates associated with intact features found at Site 33-8172 contain ceramics that date to between 7,405–7,565 and 8,995–9,270 calibrated BP (Cannon and Lerch 2007:6). Stone spheres and dart-style projectile points recovered at this locus appear to date from the Milling Stone Period when compared with other similar specimens (Justice 2002). Mortars and pestles recovered from the Locus D excavations also indicate that portions of the site may have been occupied during the Intermediate Period. The use of the mortar and pestle increases greatly during the Intermediate Period and, according to Wallace (1955, 1978), marks the beginning of this period. The pictographs found in the southern portion of Site 33-16598 (at Locus Site 33-393) appear to have been done in the San Luis Rey style, which is associated with the San Luis Rey II Period, dated to AD 1750–1850. Ethnographic accounts of early settlers from the mid-19th century in the Lakeview area also confirm the presence of Native Americans living in this area at this time (Lerch and Cannon 2008).

Artifacts are present in small quantities on the surface and in the subsurface within the northeastern half of the site within the area of direct impacts. Surface artifacts were collected from within the area of direct impacts, with the exception of two sacred artifacts (plus one from Trench 17), which were reburied on site but outside of the area of direct impacts.

In spite of the overall eligibility of the site under Criteria A, C, and D, there is no evidence of midden soil, cultural features, or cultural stratigraphy within the lower alluvial fan, which is situated within the MCP area of direct impacts. It is highly likely that the minimal number of subsurface artifacts (most of which were nondiagnostic) were transported into the area by alluvial flow. These items have been further displaced by extensive rodent activity visible in subsurface krotovina. Based on this information, the portion of Site 33-16598 within the area of direct impacts has been disturbed and apparently lacks subsurface deposits that are in a primary context. Therefore, it is unlikely to answer any research questions and has limited data potential since it does not have the potential to further yield data that is important to understanding the overall site (Criterion D). Regular plowing of the surface of the site has sufficiently disrupted the area so that the site within the proposed area of direct impacts no longer possesses integrity of association. MCP trenching indicates that the surface artifacts found within the plow zone of the MCP area of direct impacts are not associated with an intact buried deposit. All surface artifacts within the area of direct impacts have been collected, and the data potential is exhausted within this facet of the site. Therefore, the portion of Site 33-16598 that is located within the proposed right of way is not a contributing element for overall site eligibility.

for the National Register under Criterion D. This portion of the site retains eligibility under Criterion A. The SHPO concurred with these findings on January 8, 2013 (see SHPO signature on FHWA's letter dated November 30, 2012, requesting concurrence on the Finding of Effect provided in Appendix E).

The portion of the site subject to direct impacts does have the potential to contain cultural resources. Three artifacts considered by the Tribes to be sacred objects were collected during the Phase II testing and evaluation of the portion of the site within the MCP proposed right of way. These items were reburied outside of the proposed right of way. In addition, while no human remains have been documented within the site, there is the potential for displaced human remains to be encountered during earthmoving activities.

3.2.2 Site 33-19862

The site is a milling station site that measures 240 ft by 246 ft and has two loci with no associated surface artifacts. Locus A measures 32 ft by 272 ft and contains nine well-worn milling slicks on five granitic boulder outcrops. Locus B measures 23 ft by 20 ft and contains one lightly worn milling slick on a single granitic boulder outcrop. An extended Phase I testing program was conducted on this site, and no buried cultural resources were identified.

This site will be destroyed by the MCP project. Mitigation for the adverse effects to this site will consist of protein residue sampling prior to construction, and the development of a Cultural Landscape Study that will consider bedrock milling sites of this kind within the larger cultural landscape. The Finding of Effect was approved by the SHPO on January 8, 2013 (see SHPO signature on FHWA's letter dated November 30, 2012, requesting concurrence on the Finding of Effect provided in Appendix E).

3.2.3 Site 33-19863

This 23 ft by 20 ft site is a small milling station with no associated surface artifacts that contains one moderately worn milling slick on a single granitic boulder. An extended Phase I testing program was conducted on this site, and no buried cultural resources were identified.

This site will be destroyed by the MCP project. Mitigation for the adverse effects to this site will consist of protein residue sampling prior to construction, and the development of a Cultural Landscape Study that will consider bedrock milling sites of this kind within the larger cultural landscape. The Finding of Effect was approved by the SHPO on January 8, 2013 (see SHPO signature on FHWA's letter dated November 30, 2012, requesting concurrence on the Finding of Effect provided in Appendix E).

3.2.4 Site 33-19864

This 26 ft by 52 ft site is a small milling station with no associated surface artifacts that contains five well-worn milling slicks on a single granitic bedrock outcrop. An extended Phase I testing program was conducted on this site, and no buried cultural resources were identified.

This site will be destroyed by the MCP project. Mitigation for the adverse effects to this site will consist of protein residue sampling prior to construction, and the development of a Cultural Landscape Study that will consider bedrock milling sites of this kind within the larger cultural landscape. The Finding of Effect was approved by the SHPO on January 8, 2013 (see SHPO signature on FHWA's letter dated November 30, 2012, requesting concurrence on the Finding of Effect provided in Appendix E).

3.2.5 Site 33-19866

This 23 ft by 49 ft site is a milling station with no associated surface artifacts. It consists of three well-worn milling slicks on two granitic boulder outcrops. An extended Phase I testing program was conducted on this site, and no buried cultural resources were identified.

This site will be destroyed by the MCP project. Mitigation for the adverse effects to this site will consist of protein residue sampling prior to construction, and the development of a Cultural Landscape Study that will consider bedrock milling sites of this kind within the larger cultural landscape. The Finding of Effect was approved by the SHPO on January 8, 2013 (see SHPO signature on FHWA's letter dated November 30, 2012, requesting concurrence on the Finding of Effect provided in Appendix E).

3.3 REMAINDER OF THE MCP CORRIDOR

The single historical archaeological resource (Site 33-19865) was determined not eligible for the National Register or the California Register under any criteria. The SHPO concurred with this determination in a letter dated September 18, 2012 (Appendix E).

The entire MCP corridor is considered sensitive for buried archaeological resources. Geologic mapping indicates three types of Holocene sediments (10,000 years ago to the present) will be crossed by the build alternatives. In addition, areas mapped as late to middle Pleistocene sediments (10,000 to 300,000 years ago) are crossed by the build alternatives. While these areas are mapped as Pleistocene age sediments, they include the entire alluvial fan portion of Site 33-16598, where deeply buried archaeological deposits have been documented (Cannon and Lerch 2007; Lerch and Cannon 2008). The MCP also traverses upland areas of igneous bedrock with shallow sediments. While these areas are considered less sensitive for buried archaeological materials, they are also the areas where four bedrock milling sites were identified within the APE during the MCP studies. While the MCP studies did not identify any buried archaeological material at these sites, the possibility of encountering buried archaeological materials during construction of the MCP does exist. One site adjacent to the area of direct impacts (Site 33-3653) is designated an ESA. The area north of the APE extending south of Bernasconi Road for 1,000 ft is designated an ESA to prevent any inadvertent impacts to cultural resources in the Bernasconi Hills area north of the APE.

4.0 ARCHAEOLOGICAL CONTEXT

4.1 ENVIRONMENT AND PALEOENVIRONMENT

4.1.1 Geology

Much of western Riverside County west of Mt. San Jacinto is located within the Peninsular Range geologic province, one of the largest geological units in western North America. The Peninsular Ranges contain extensive pre-Cretaceous igneous rocks older than 135 million years, a well-represented Cretaceous marine deposit 70–135 million years old, and a restricted veneer of post-Cretaceous rock younger than 70 million years old that includes volcanic, marine, and non-marine sediment (Norris and Webb 1976:169). Rocks on the eastern margin of the Santa Rosa Hills of Hemet include these plutonic Cretaceous granitic outcrops, the entire complex of which is called the Southern California Batholith. These huge rock masses were formed subterraneously and emerge as enormous outcrops in various portions of Riverside County, where they were utilized by the prehistoric inhabitants for bedrock milling surfaces. In some areas near Perris, megafauna fossils have been found in Pleistocene-age sediment (Reynolds and Reynolds 1991; Springer and Scott 1994), indicating substantial change has occurred in the relatively recent past.

The existence of large outcrops within a specific area depends on the hardness of the uplifted granitic batholith material in that area. Granodiorites are often harder and more resistant to weathering than less-resistant Bonsall tonalite (Dibblee 1982), resulting in granodiorite ridges such as Reservoir Butte (T. Rogers 1965). Elsewhere, sediment will consist of a decomposing granitic base, which often appears as large-grained sand with varying levels of organic material. On steeper slopes, organic overburden atop this decomposing granitic base can be nonexistent, or just a thin lens, with the more lightly-colored decomposing granitic bedrock just below the surface. In level areas, and occasionally along drainages, sediment accumulation can result in dark-colored organic debris. These natural accumulations of darker-colored sediment from drainage, slope wash, or agriculture can be expected in some areas, although they are natural in origin and lack cultural material associating them with human activity (DeVries 2004).

Fine-grained cryptocrystalline silicates such as chert and chalcedony are rare in the MCP region. However, in the Temescal Canyon region west of the MCP corridor, many of the stream-deposited rocks and cobbles are fine-grained metasedimentary materials used prehistorically to manufacture flaked stone tools. Many of the low-grade silicified rocks that occur locally near the project area were used by the prehistoric inhabitants for flaked stone tools, as were the more difficult to flake quartz, quartzite, and fine-grained porphyritic monzogranite, which also occur in local deposits. Many outcrops of fine-grained material exhibit some indication of prehistoric quarrying, and these lithic materials were used as cores to obtain flakes that were then used to produce knives, points, and other stone tools. Numerous prehistoric quarry sites are located in the Cajalco Canyon area west of the APE, including Sites 33-1512 (a porphyritic monzogranite quarry) and 33-1650/16687 (a fine grained quartzite quarry). Based on the type of material that is naturally occurring within the MCP project vicinity, fine-grained cryptocrystalline silicates such as chert and chalcedony (commonly used prehistorically for tools) would have been imported from beyond the MCP region.

It is possible that buried cultural resources exist on old, currently buried landforms. Site 33-16598 is an example of a buried site and buried sites are most likely along terraced stream and river landforms, where slope-wash may cover the resources. Luiseño villages were generally located along the edges of valleys or in valley bottoms along streams, and almost always within 100 meters of water (Oxendine 1983:172, 178–179). These are the areas most likely to exhibit soil creep in the form of colluvium, slides, and debris flow if enough water is present, and these areas also are more likely to contain buried cultural resources. The major drainage in the area is the San Jacinto River, located between the Bernasconi Hills and the City of San Jacinto west of SR-79. However, sediment in this area is slide-resistant. The decomposing granitic sediment in the vicinity of the San Jacinto River would have eroded constantly rather than sliding all at once.

4.1.2 Physiography

Western Riverside County, west of Mt. San Jacinto, contains varying combinations of landforms. Areas of broad valleys with low rolling hills are dissected by drainages such as the San Jacinto River. The area also contains steep, rocky hills and mountainous areas.

4.1.3 Hydrology and Rainfall

Rain in Riverside County is seasonal, falling primarily between January and March; however, occasional late-summer monsoonal moisture from lower California sweeps northward into the deserts of Riverside, San Bernardino, and eastern Imperial Counties. Thunderheads develop and sporadic heavy rain can result; these monsoonal rains are more common in the eastern part of Riverside County. Annual rainfall from 1971–2000, as measured at the Sun City weather station approximately 5 miles (mi) south of the MCP project area, has averaged 11.4 inches with 8.9 inches falling during the months of December through March (United States Department of Commerce 2002).

Mean minimum January temperatures in western Riverside County (as reported for the City of San Jacinto, on the eastern end of the APE) range from 40–65 degrees Fahrenheit (°F) (Western Regional Climate Center 2008). Mean maximum July temperatures average 56–99°F (Western Regional Climate Center 2008). The temperature at any point in the year has much to do with the availability of water. To a great degree, prehistoric habitation within the semi-arid environment of western Riverside County was dependent on the availability of water. In the arid summer months, water needed to be collected either from springs or from dependable sources of runoff from the mountains, where it was provided by melting snow pack.

Year-round water was available in proximity to the MCP APE. This suggests that water was not the limiting factor in determining site location. The San Jacinto River runs west-northwest along the western edge of the San Jacinto Mountains. The river winds west and away from the San Jacinto Mountains bending around the north end of the Lakeview Mountains until it meets the eastern edge of the Bernasconi Hills. During this distance of approximately 10 mi, the San Jacinto River provides a source where, prehistorically as well as currently, water can be obtained relatively easily during the rainy season and with little effort during the remainder of the year. Historically, a series of duck ponds existed in this region. Prehistorically, the area would also have supported waterfowl and large game animals as well as providing water, probably the single most important factor in creating a

hospitable living environment for the prehistoric inhabitants. Additionally, numerous seeps and springs occur in the mountainous areas in the vicinity of the APE, and prehistoric occupation sites are often located in proximity to these fresh water sources. In summary, water was and is plentiful in this area.

4.1.4 Biology

The concept of “life zones” (i.e., biomes) corresponding to temperatures at various elevations was developed by C. Hart Merriam, a United States Government naturalist working in the southwestern United States in the late 19th century, and were named for geographic areas between the floor of the Grand Canyon and the San Francisco Peaks (Schoenherr 1992:47). The project area is located within the Sonoran life zone (Schoenherr 1992:47), which includes a range of different biotic/plant communities (see below) where rainfall averages approximately 10 inches a year (National Weather Service 2008). Animals commonly observed in the area include coyote, ground squirrel, cottontail, several species of lizards, finches, ravens, doves, swallows, vultures and raptors (Walters 2011). Common plants include scrub oak, California sagebrush, California buckwheat, chamise, and fiddleneck (Walters 2011). Some ethnographic examples of plant use by native California groups were recorded by Edward Balls in the 1960s (Balls 1962). He noted that it was possible to find native individuals using the old recipes and remedies derived from local plants, and that these uses varied significantly by geographic location (Balls 1962:5–7).

There are four main biotic communities in the vicinity of the MCP APE: coastal sage scrub, riparian woodland, chaparral, and southern oak woodland. Of these four, coastal sage scrub is the most common. Each biotic community presented different alternatives for human adaptation and resource exploitation. The biotic communities are briefly described below by specific community following Jaeger and Smith (1971:43–46) unless otherwise noted.

- **Coastal Sage Scrub:** This is the most common natural biotic community in the APE. Coastal sage scrub includes the clay or gravelly, sometimes rocky, or rock-strewn slopes of low elevation cismontane areas between the coast and abruptly rising chaparral-covered slopes from San Luis Obispo County southward through San Diego County. Examples include the south-facing and west-facing slopes of the steep inland hills near Riverside, San Luis Obispo, Santa Barbara, Fillmore, and Claremont. This biotic community is drought-adapted and does best under the influence of a maritime environment where fog can provide moisture. Coastal sage scrub has been referred to as “soft chaparral” because many of the dominant plants bend easily and have soft, flexible leaves (Schoenherr 1992:328). Sagebrush, white sage, black sage, buckwheat, lemonade-berry, prickly pear, and yucca are some of the commonly found plants in areas of coastal sage scrub. Ground squirrel, kangaroo rat, wood rat, and California mouse are some common mammals, while the western fence lizard and western rattlesnake are reptiles common to this biotic community.

Despite its primarily coastal distribution, coastal sage scrub is not restricted to coastal regions and also exists in low-elevation inland valleys (Schoenherr 1992:328). The terms “inland sage scrub,” and “Riversidean sage scrub” describe the most xeric expression of the coastal sage scrub community (Holland 1986; Oberbauer 1996) dominated by California sagebrush (*Artemisia californica*) and California buckwheat (*Eriogonum fasciculatum*). Inland sage scrub and Riversidean sage scrub typically exist in inland areas that receive little water, such as steep

slopes, severely drained soils, or clays that release stored moisture slowly (Holland 1986:11). Along with inland and Riversidean sage scrub, the simplified term “sage scrub” is also intended to identify the coastal sage scrub biotic community.

- **Riparian Woodland:** Riparian woodland areas are important and include streams leading from mountains to cismontane plains and many smaller streams in mountain areas. Examples include the Santa Inez, Santa Clara, Santa Ana, and San Luis Rey Rivers; Sespe Creek and Lytle Creek; and Palm Canyon. Common trees include western sycamore, cottonwood, and several species of willow, all of which occur in riparian habitat. Willow was commonly used as a prehistoric dwelling construction material (Strudwick 2004), and the presence of this community may have been a signal to native peoples of the presence of reliable water supplies. Common mammals include the raccoon, skunk, and woodrat. Garter snake, western pond turtle, sparrow, and wren are reptiles and birds common to this area.
- **Chaparral:** The chaparral biotic community is one of the best-developed southern California plant communities. It contains dense shrubs up to 15 ft in height located at elevations of 1,000 to 5,500 ft above mean sea level from San Luis Obispo southward into Baja California. The elevation of this biotic community occurs above 3,000 ft on the slopes facing the desert. The densest areas of chaparral are located on the coastal sides of the mountains. Chaparral overlaps with the distribution of the coastal sage scrub community at lower altitudes. Many of the plants within the chaparral biotic community contain fire-resistant seeds of long viability that sprout quickly after fires. Chamise, scrub oak, foothill ash, wild lilac, manzanita, toyon, and sugarbush are common plants. Mule deer, coyote, gray fox, bobcat, brush rabbit, woodrat, kangaroo rat, and California pocket mouse are common mammals. Quail, scrub jay, thrasher, and warbler are common birds, while the western fence lizard, alligator lizard, horned lizard, and western rattlesnake are common reptiles.
- **Southern Oak Woodland:** Southern oak woodland includes areas with dense to open forest with trees 15 to 75 ft in height and scattered shrub and grassland in the foothills. Examples near the project area include the Gavilan Hills west of the APE, oak parklands inland of Warner’s Ranch in eastern Riverside County, Ramona and its vicinity in San Diego County, as well as cismontane mountain borders and north foothill slopes in San Bernardino County. Characteristic plants include California juniper, California black walnut, coast live oak, gooseberry, sugarbush, and lemonade-berry. Mule deer, raccoon, gray fox, squirrel, wood rat, and California mouse are common mammals. Birds include the California quail, woodpecker, and scrub jay, while reptiles include the western fence lizard, king snake, and northern red-diamond rattlesnake.

4.1.5 Paleoenvironment

Enormous sheets of glacial ice covered most of the northern hemisphere during the Pleistocene epoch (Antevs 1955; Moratto 1984). These ice sheets, up to approximately 1.9 mi in thickness, occurred during at least four major episodes, or stages, of glaciations separated by interglacial periods that were warmer intervals of ice retreat. The last of the four glacial stages was the Wisconsin Stage, which occurred between 60,000 and 11,000 years ago. As West et al. (2007:14–15) stated:

Antevs’ (1955) late and postglacial scheme (Anathermal, Altithermal, Medithermal) is based on geomorphic studies in the southwest and intermountain Basins of the West and has been widely used by archaeologists. Most of the Original scheme is

based on correlated data without absolute independent dates since his work was done prior to and in the early period of radiocarbon age determinations. As a result, some of Antevs' interpretations of chronology and climate have been challenged and refined based on new approaches and higher-resolution analysis. Nonetheless, his basic scheme has stood the test of time at least as a relative sequence, if not an absolute one. Antevs' ages and regional climatic interpretations have survived at a general level for large-scale comparative purposes.

During the late Pleistocene, the climate changed dramatically to sub-humid or semi-arid conditions with cool-moist and warm-dry seasons like those of today (Moratto 1984; Hubbell 2001). This habitat was suitable for a variety of animals including mammoth, horse, bison, tapir, sloth, camel, dire wolf, American lion, cheetah, and saber-toothed cat (Moratto 1984). These large animals, known as megafauna, are thought to have inhabited most of what is now southern California during the Pleistocene. Vegetation during the late Pleistocene was a mosaic of forest, woodland, grassland, and cold-desert communities.

West et al. (2007) provides an updated summary of the Pleistocene and Holocene environments in California. In their discussion of cismontane and transmontane California marine fossil, tree ring, *Neotoma* (pack rat) midden, and pollen and microfossil data were utilized as the basis for their climatic reconstructions. None of their data locations, however, are directly related to the project or the Inland Valley of southern California. Because of concerns about future water supplies in southern California, the past few years have seen the beginning of numerous projects that will extract long-term climatic records from sediment cores from Lake Elsinore, Baldwin Lake, and other locations somewhat more germane to the current project. While these data have not altered the broad patterns identified in the preceding studies that are based on data from the coastal and desert, they do provide a refinement of our understanding of human responses to environmental shifts in the inland valleys. Kirby et al. (2005:239) summarized the results of the lake core analyses conducted at Lake Elsinore as follows:

Our results indicate four distinct millennial-scale climate modes over the past 19,250 calendar years. These modes include a wet Last Glacial Maximum (19,250 to 17,120 cal. Yr. BP), a relatively dry late-Glacial/Holocene transition (17, 120-9450 cal. Yr. BP), a wet early Holocene (9450–7670 cal. Yr. BP), and a highly variable mid-to-late Holocene climate (i.e., alternating wet/dry cycles; 7670 cal. Yr BP-present). We attribute the mid-to-late Holocene climatic interval to the onset of El Niño-Southern Oscillation ca. 7000 cal. Yr BP and a more vigorous hydrologic system. These results are supported by a variety of regional terrestrial and marine paleoclimate archives.

4.2 ETHNOGRAPHY

Although Spanish explorative incursions into California had occurred since 1540, the Late Prehistoric Period ended abruptly in 1769 with the beginning of the Spanish Mission Period. It was then that Franciscan friars and Spanish soldiers began establishing mission outposts along the California coast. Impact to native populations was greatest in those areas where Spanish missions were established, and this was primarily along the California coast between San Diego and San Francisco (see maps in Goodman 1962; Lowman 1993). This period of time has also been referred to as the Protohistoric Period, although because of the previously named Protohistoric (Shoshonean) Period, placed A.D.

1200–historic times (Warren 1984), the designation “Ethnohistoric Period” is less confusing, and is used here.

Typically, native culture groups in coastal central and southern California were named after the mission within which ecclesiastical jurisdiction they lived. For instance, the Gabrielino are named after Mission San Gabriel Archangel, the Luiseño are named after Mission San Luis Rey de Francia, and the Juaneño are named after Mission San Juan Capistrano. Further inland, Tribes such as the Cahuilla, Serrano, and Chemehuevi are not named after missions, since there were no local missions, and Spanish influence was not as great.

Three native groups inhabited the vicinity of the current MCP APE: the Cahuilla, Luiseño, and Gabrielino. Several maps of Tribal territories, including Kroeber (1925), Heizer and Whipple (1951), and Bean and Saubel (1972), show the APE as being within Luiseño territory. Later maps by Bean (1978:576), Bean and Shipek (1978:551), and Bean and Smith (1978b:538) show a markedly smaller Luiseño territory on the east, with Cahuilla territory expanded into what was previously depicted as Luiseño territory. Gabrielino territory is consistently described as well north and west of the APE. Kroeber (1925:648) writes that the Luiseño “occupied a somewhat irregular territory, considerably longer from north to south in the interior than on the coast and wholly west of the divide that extends south from Mount San Jacinto. To the northwest and north they had Juaneño, Gabrielino, and Serrano as neighbors; to the east the Cahuilla...” These three groups, the Gabrielino, Luiseño, and Cahuilla, are all from the Takic (Uto-Aztecan or Shoshonean) linguistic group (Kroeber 1925).

These ethnohistorically recorded Tribes and their territories are defined in Kroeber (1925) and within Volume 8 of the Handbook of North American Indians (Bean 1978; Bean and Shipek 1978; Bean and Smith 1978a, 1978b). Traditional Cahuilla and the Luiseño Tribal territory descriptions are also presented by James (1960), White (1963), and Oxendine (1983), while Gabrielino territory is well-described by Johnston (1962) and McCawley (1996).

4.3 ARCHAEOLOGY

4.3.1 Cultural Chronology

The description of various prehistoric stages, or chronologies, synthesizing cultural evolution in southern California has been attempted numerous times. Several of these chronologies have been combined in Moratto (1984:158) and illustrate that no single description is universally accepted. The varying chronologies are primarily based on changes in artifact styles, the introduction of new artifact types, and innovations in the use of raw materials. The presence of trade artifacts or raw material from distant sources is also used as temporal indicators. Variation exists among the chronologies due primarily to the differences in material items recovered from sites. Small differences occur over time and space, which combine to form patterns that are variously interpreted. The stages outlined in Table A serve to show a general relationship between the chronologies.

Table A: Cultural Chronology of Riverside County

Mojave and Colorado Desert			Western Riverside County		
Period	Chronological Range	Diagnostic Artifacts	Period Name	Chronological Range	Diagnostic Artifacts/Features
Proto-historic	AD 1200–1850	Desert side-notched	Late Prehistoric	AD 500–Historic	Ceramics, Cottonwood Triangular and Desert side-notched projectile points (arrow points), cremations
Saratoga Springs	AD 500–1200	Rosegate series; pottery	Intermediate	2000 BC–AD 500	Mortars, pestles, discoidals, abundant (dart) projectile points
Gypsum	2000 BC–AD 500	Elko, Gypsum, Humboldt series; T-shaped drills, occasional large scraper planes, mortar and pestle	Milling Stone	6500–2000 BC	Metates, manos, cogstones, discoidals, core tools, paucity of projectile points, inhumations
Pinto	5000–2000 BC	Pinto series; large keeled-scrappers, flat milling stones	Early Man	9000 BC?–6500 BC	Large, often fluted, points, such as Clovis and Folsom types in association with extinct fauna
Lake Mojave	7000–5000 BC	Lake Mojave series; well-made bifacial knives and other cutting tools, large domed or keeled scrapers	—	—	—

Sources: Wallace, William J. 1955. A Suggested Chronology for Southern California Coastal Archaeology. *Southwestern Journal of Anthropology* 11(3):214–230;
Wallace, William J. 1962. Prehistoric Cultural Development in the Southern California Deserts. *American Antiquity* 28(2):172–180;
Warren, Claude N. 1984. The Desert Region. In M.J. Moratto, *California Archaeology*, pp. 339–430. San Diego: Academic Press, Inc.; and
Warren, Claude N. 1986. Fort Irwin Historic Preservation Plan, Volume 2: The Research Overview. Coyote Press, Salinas, California. Copies also available from National Park Service-Western Region, San Francisco, and from the National Technical Information Service, Washington, D.C.

Two primary regional culture chronology syntheses for southern California are commonly referenced in the archaeological literature. The first, advanced by Wallace (1955) delineated four cultural horizons, each with characteristic local variation. These include the Early Man, Milling Stone, Intermediate, and Late Prehistoric Horizons. Subsequently the term “Period” came to replace the term “Horizon,” although both terms are intended to describe periods of time. In 1978, Wallace slightly revised and more clearly defined this chronology and applied radiocarbon dates, unavailable in 1955, to provide absolute dates (Wallace 1978:25–36). Currently, Wallace’s chronology (1955, 1978) is among the most widely used prehistoric cultural chronology for southern California.

The second commonly used cultural chronology, based broadly on southern California prehistoric cultures, including those of the inland desert areas, San Diego, and Santa Barbara, was proposed by Warren (1968). This chronology was later revised (Warren 1984; Warren and Crabtree 1986) and utilizes five periods in southern California prehistory: Lake Mojave, Pinto, Gypsum, Saratoga Springs, and Protohistoric periods. Warren views cultural continuity and change in terms of various significant environmental shifts, marked by changing artifact assemblages and utilizes the cultural ecological approach. In this chronology, changes in settlement patterns and subsistence focus are viewed as cultural adaptations to a changing environment, beginning with the gradual environmental warming in the late Pleistocene, the desiccation of the desert lakes during the early Holocene, the short return to pluvial conditions during the middle Holocene, and the general warming and drying trend, with periodic reversals, that continues to this day (Warren 1986).

Early Period. Initial human occupation of prehistoric southern California is labeled “Early Man” or “Horizon I” by Wallace (1955). Elsewhere this “Paleo Indian” or “Early Period” covers the time period from the first presence of humans in southern California until post-glacial times. Moratto (1984:104) uses the term *Paleo-Coastal*, which was first proposed by Davis et al. (1969) to identify specific components of coastal California sites dated between 11,000 and 8000 BP. Wallace (1978:25–28) renames this period the “Hunting” Period, and states that the terminal portion of the Early Period was approximately 6000–5000 BC.

Although coastal Early Period cultures in California have been interpreted as diversified foraging economies (Moratto 1984:79–88; Erlandson 1994:44–45), Early Period artifacts and cultural activities from inland sites such as the California high desert (Warren 1984) suggest a predominantly hunting culture (Wallace 1955). Social structure from these cultures appears to have been based on hunting of now extinct megafauna, including large animals such as bison and mammoth. The occurrence of extremely large and occasionally fluted bifaces characterize this period (Moratto 1984:81). Large bifaces are associated with use of the spear and *atlatl*, also known as the spear thrower, and indicate big game hunting activities.

In the California desert, the Lake Mojave Period (7,000 to 5,000 BC) is associated with now-dry pluvial lakes. The material culture of the Lake Mojave Period is dominated by stylized dart points of the Lake Mojave and Silver Lake series, well-made bifacial knives and other cutting tools, large domed or keeled scrapers, and other characteristic artifact types (Wallace 1962). Ground stone tools are rare or absent at most sites from this time period.

In much of California, a Western Pluvial Lakes Tradition has been proposed as a concept to “... bring order to some of the taxonomic chaos ...” in an effort to organize the “... terminological jungle that has obscured basic archaeological patterns and relationships” in California (Moratto 1984:92).

In general, the Western Pluvial Lakes Tradition toolkit commonly includes crescentics, large flake and core scrapers, choppers, scraper planes, hammerstones, different core types, drills, graters, and diverse types of flakes (Moratto 1984:93). A primary characteristic of Western Pluvial Lakes Tradition sites is their location on the shores of pluvial lakes. The Western Pluvial Lakes Tradition is thought to have manifestations at sites on the shores of pluvial lakes from northern central California to southern California (Moratto 1984:81, 103). The Lake Mojave Complex is one of the best known expressions of the Western Pluvial Lakes Tradition.

Milling Stone Period. Wallace’s (1955, 1978) “Horizon II” or “Milling Stone” follows the Early Period in time. Wallace (1955) suggests that cultures of the Milling Stone were generally hunter-gatherers who collected and processed plants. Wallace (1978:28–30) renames this period the “Food Collecting” Period, although he continues to use the Milling Stone Horizon in discussions. Some researchers have included the Milling Stone Period in other traditions and regional variants (Moratto 1984:125–133; Erlandson 1994:45). Milling Stone cultures are well represented in southern California and are also common from inland areas (True 1958; Strudwick and Bergin 1999).

Wallace originally ended the Milling Stone period at approximately 1000 BC (Wallace 1955:223), but later placed the Milling Stone Period between 6000 and 3000 BC (Wallace 1978:28). However, Wallace stressed that the earliest known dates for the Santa Barbara and San Diego areas along the coast were only 5500 BC.

Milling Stone traditions enjoyed a long history along the coast during the early Holocene. In the desert, the Pinto Period (5000–2000 BC) succeeded the Lake Mojave Period, and appears to have been a time of climatic stress, with resultant changes in environment and staple resources which affected cultural adaptations. As lakes and rivers dried up, plant and animal resources changed. Warren (1984) postulated that populations adjusted to hostile arid conditions by moving to oases in the deserts or to the edges of the desert. This dry period was followed by a moister period in which people returned to the deserts and more plant resources were utilized (Wallace 1962; Warren 1984).

The Milling Stone site characteristics include burial beneath rock or milling stone cairns. Milling Stone Period bifaces are rare and when found are usually large and likely used in conjunction with the atlatl. Bone is also rare at sites from this period. Milling Stone Period sites typically contain an abundance of ground stone artifacts including manos and metates.

In the inland deserts, milling implements are also found in large quantities on Milling Stone Period sites. Similar to the preceding Lake Mojave Period, dart points, especially Pinto series points, still dominated the material culture, and heavy keeled scrapers, flat millingsstones, and manos are still found associated with sites from this period. The Milling Stone Period is considered to be a wet period followed by a dry spell, which resulted in decreased desert populations; it subsequently led into the Little Pluvial at about 2000 BC (Warren 1984).

Intermediate Period. The Intermediate Period is named because it falls midway between the Milling Stone Period and the Late Prehistoric Period. These three time periods were originally thought to be the only ones to exhibit a significant record of human occupation and use. The terms “Middle Period” (Warren 1968; King 1981) and “Diversified Subsistence” (Wallace 1978:28) have also been used. In southern California, the Intermediate Period has been referred to as “Gypsum” in the inland deserts (Warren 1984; Warren and Crabtree 1986), “Hunting” in the Santa Barbara area (D.B. Rogers 1929), and “Campbell” in the Santa Barbara and Ventura areas (Warren 1968). Wallace (1955:223) identifies “Horizon III” or the “Intermediate Horizon” as occurring between 1000 BC and AD 1000. Wallace (1978) later placed the Intermediate Period between 3000 BC and AD 500. Koerper and Drover (1983:11) report the Intermediate Period in Orange County from 1000 BC to approximately AD 650 (3000–1300 BP).

The Intermediate Period is characterized by a diversification in subsistence strategies and an increased emphasis on exchange and interregional trade as ameliorating factors contributing to cultural stability. The use of the mortar and pestle increased dramatically during the Intermediate Period, marking the beginning of this period according to Wallace (1955, 1978). The mortar and pestle represent an important innovation in seed processing technology, and probably reflect a diversification in seed foraging and processing. It is possible that the mortar and pestle represent an increased reliance on acorns as a food resource (Glassow et al. 1988). The basket hopper-mortar was also used during the Intermediate Period.

The start of the Little Pluvial and Gypsum Periods (2,000 BC to AD 500) coincide with Elko series points as the diagnostic artifact. Manos and milling stones are commonly found at Gypsum Period sites. Flake scrapers were more widely used, although the occasional large scraper plane is also found (Warren 1984). Limited trade goods reaching the desert from the coast, such as *Haliotis* and *Olivella* shell beads and ornaments, are found associated with Gypsum Period sites (Warren 1968). Minor (1975) suggests that the first of the pit and groove petroglyphs were produced during the latter half of the Gypsum Period. Coso area petroglyphs, thought to have been made prior to the Intermediate Period, reflect a change in tool choice: from atlatl to bow-and-arrow which coincides with the use of the atlatl at the beginning of the Gypsum Period, and with an increased use of the bow-and-arrow into the Late Holocene (Warren 1984).

Late Prehistoric Period. Wallace's "Horizon IV," the "Late Prehistoric Horizon," otherwise known as the "Late Prehistoric Period" or simply the "Late Period," begins roughly at AD 500 (Bean and Smith 1978a). At this time, Late Prehistoric Period cultures represented in the archaeological record in southern California became increasingly complex and diverse. Changes in tool types, representing a new artifact technology, reflect other changes in cultural patterns, such as subsistence strategy and ceremonial practices. Changes in these cultural traits have been linked to a proposed Uto-Aztecan (Takic), or Shoshonean, cultural migration from the Great Basin to the Pacific Coast. Although there is some variation on when the Late Prehistoric Period occurred, it is generally assumed that the period began approximately AD 500–750, and its termination is widely accepted as AD 1769, the date of the beginning of permanent European occupation of California.

In desert areas, the cultural designation assigned to the Late Prehistoric Period includes the Saratoga Springs Period (AD 500–1200), followed by the Shoshonean Period, or Protohistoric Period (AD 1200 to historic times, and as late as 1850 in some locales) (Warren 1984). During the Saratoga Springs Period, groups continued a successful hunting and gathering adaptation to the desert environment through increasingly complex subsistence strategies. Distinguishing characteristics of the Saratoga Springs culture include the presence of pottery and projectile point types associated with use of the bow-and-arrow. Ceramic vessel technology, appearing first on the lower Colorado River approximately AD 800, and begins to spread west into the southern California deserts by AD 900. Brown Ware and Buff Ware ceramics both occur at Saratoga Springs Period sites. Associated with the use of ceramics are Desert Side-notched and Cottonwood triangular projectile points, both small projectile points associated with use of the bow-and-arrow. Increased use of steatite for ornaments, beads, and pendants is also characteristic of this period (Warren 1984).

In the subsequent Shoshonean, or Protohistoric Period, there was a strong reliance on plant food gathering and hunting of small game, and a decreased reliance on large game (Warren 1984; Warren and Crabtree 1986). Seasonal movement, transhumance, was common and resulted in a diverse array of site types. Technology in desert areas was greatly influenced by Hakatayan Culture of the lower Colorado River area (Warren 1984). Shoshonean Period sites contain flaked stone assemblages made almost exclusively of pressure flaked cryptocrystalline silicates, such as chert, chalcedony, and obsidian.

Generally, in southern California during the Late Prehistoric Period, projectile points become smaller, indicating use of the bow-and-arrow for hunting. Studies indicate that Late Period projectile points begin to weigh, on average, less than 3.5 grams (Fenenga 1953). The use of steatite for arrow shaft

straighteners, cooking, containers, and effigies such as pendants (Koerper and Drover 1983:20) becomes more common during the Late Prehistoric Period. Natural asphaltum, otherwise known as bitumen or tar, was more commonly used. Bone tools became more common and varied. Ornaments of shell, bone, and stone were also more common. According to current literature, interment practices during this time are primarily cremation, except in the Santa Barbara area and on the Channel Islands where burial was still the preferred method of interment. Elaborate mortuary customs become widespread and abundant grave goods become common.

By AD 1000, ceramic smoking pipes and pottery began to appear (Meighan 1954; Warren 1984). Within Luiseño territory, Meighan (1954) postulated two relatively distinguishable phases of the Late Period. One, an earlier pre-ceramic phase termed the San Luis Rey I, dates from approximately AD 1400 to 1750; the other, termed the San Luis Rey II, dates from approximately AD 1750 to 1850 and includes the presence of ceramics. Additionally, Meighan lists ceramic smoking pipes, cremation urns, red and black pictographs, and grooved steatite arrow shaft straighteners as indicators of the San Luis Rey II period. The introduction of ceramics to the Luiseño area was subsequently estimated by True et al. (1974:97) to have occurred approximately AD 1500–1600. Prehistoric ceramic vessel technology is well documented from the current MCP APE in what is now Riverside County, and also from nearby San Diego County to the south (Meighan 1954; True 1958, 1966, 1970).

Late Prehistoric Period sites in the southern California area are also identified by the increased frequency of Salton Sea (Obsidian Butte) obsidian, which was used sporadically in southern California until after circa AD 1000. Obsidian Buttes obsidian is thought to have been made available by the receding shore of prehistoric Lake Cahuilla, its last two stands occurring from approximately AD 900 to 1500 (Wilke 1978:57).

Wallace's Late Prehistoric Period (Horizon IV) is contemporaneous with the influx of native groups and sudden changes in material culture, subsistence focus, and burial practices thought to have originated in the deserts to the east. These cultural changes coupled with a group migration are thought to have occurred in approximately AD 500. This migration was formerly termed the *Shoshonean Intrusion* or *Shoshonean Wedge* and has been identified as such in a number of cultural chronologies. For the most part, use of the term "Shoshonean" to indicate a Uto-Aztecan (Takic) language has been dropped from the anthropological literature due to potential confusion with modern Shoshonean Tribes who are Numic (Bergin and Ferraro 1999:24), another division of the obsolete Shoshonean language-group terms (Shipley 1978:90). The ethnographically recorded Luiseño, Juaneño, and Gabrielino are thought to be the descendants of prehistoric Takic populations that settled along the coast during the Late Prehistoric Period, or possibly earlier. The Serrano and Cahuilla, more distant from the coast, are also Takic-speaking Tribes.

In the San Diego area, the most recent portion of the Late Prehistoric Period is referred to as the "San Luis Rey I and II" (Meighan 1954), while inland it is referred to as the "Cuyamaca Complex" (True 1958, 1966, 1970). The San Luis Rey phases gave way to the ethnohistorically described Luiseño, while the Cuyamaca Complex resulted in what we now call the Diegueño. In the Orange County area, the Late Prehistoric cultures are ethnohistorically recorded as the Gabrielino, except for a small group in the vicinity of Mission San Juan Capistrano known as the Juaneño.

4.4 HISTORY

In California, the historic era has been divided into three general periods: the Spanish Mission Period (1769–1821), the Mexican Rancho Period (1821–1848), and the American Period (1848–present) (Robinson 1979). A brief discussion of the various historic eras follows.

4.4.1 Spanish Mission Period (1769–1821)

Although the first recorded contact between Uto-Aztecs and Europeans occurred in 1542 with the Cabrillo Expedition's arrival at Santa Catalina Island (Wagner 1941), the first major land expedition through southern California was Gaspar de Portolá's journey north from Mission San Diego in search of Monterey Bay (de Portolá 1909; Hoover et al. 1962:11). The period between the first land expeditions through California in 1769 and 1821, when Mexico gained independence from Spain (McGroarty 1911:117; Avina 1932:29; Robinson 1979:13) is often referred to as the Spanish Mission Period (Robinson 1979:51–52).

Early history of the Riverside area did not begin until 1772 when Lieutenant Pedro Fages, then military governor of California, crossed through the San Jacinto Valley in pursuit of deserters from the Presidio of San Diego (Beattie and Beattie 1939). Two years later, Juan Bautista de Anza led an expedition to explore an overland route from Sonora to San Francisco (Bancroft 1884) and traveled through the valley. This route is now known as the Anza trail and roughly runs along what is now Ramona Expressway. In 1776, Anza led a second expedition, following this route, to bring new colonists who eventually settled the San Francisco area (Font 1913).

European settlement in Riverside County was slow and sporadic. By the time Pedro Fages crossed into Riverside County, 5 of the 21 missions were established. During the Spanish Mission Period (1769–1821), Riverside County proved to be too far inland to include any missions or *asistencias* within its limits, although both Mission San Luis Rey and Mission San Juan Capistrano claimed a large part of southwestern Riverside County.

By the early 1800s, Spanish army officers and veterans living in California began receiving grants of land and establishing large private grazing areas. However, Riverside County contains none of the fewer than 25 Spanish Period rancho grants that were made. Don Leandro José Serrano is credited as the first nonnative to settle in what is now Riverside County. In 1818, Serrano obtained permission from the priests at San Luis Rey to settle "five leagues of land in the Temescal" (Brown 1985:35; State Historical Landmark Nos. 185, 186, 224, and 638). In 1821, Native American neophytes from the San Gabriel Mission established the Rancho San Gorgonio near Banning and Beaumont.

Ultimately, Native American culture collapsed during the Spanish Mission Period. Two important factors that contributed to this decline were: (1) the removal of the youngest, healthiest, and most productive Native Americans from their traditional communities and their incorporation into the Mission System; and (2) the introduction of highly infectious diseases, eventually leading to epidemics and reduced birth rates. As a result, native communities were depopulated and the survivors integrated into surrounding communities.

4.4.2 Mexican Rancho Period (1821–1848)

In 1821, Mexico gained independence from Spain, and in 1848, the United States formally obtained California in the Treaty of Guadalupe Hidalgo (Cleland 1962:xiii). The period from 1821 to 1848 is referred to here as the Mexican Rancho Period. It was during this period of time that tracts of land in excess of 1,000 ac, termed *ranchos* (Avina 1932:iii), were granted by the various governors of *alta* California, usually to individuals who had worked in the service of the Mexican government. In 1833, 12 years after gaining independence from Spain, the Mexican government's Secularization Act changed missions into civil parishes, and those natives who had inhabited regions adjacent to a Spanish Period mission were to obtain half of all mission possessions, including land. However, in most instances this did not occur, and the Secularization Act resulted in the transfer of large land tracts to politically prominent individuals.

Although 14 Mexican Rancho Period land grants were made in Riverside County (Beck and Haase 1974:38), only two occur on MCP project lands. All of the grants were patented during the American Period, one to the original grantee, the remainder to others. Most of the MCP APE runs through a section of the *Rancho San Jacinto Nuevo y Potrero* (Avina 1932:87; Shumway 1988:62). This grant was also known as *Rancho Potrero San Jacinto Nuevo*. The eastern end of the MCP APE encounters a small section of a second Mexican Rancho Period land grant, the 4-square-league *Rancho San Jacinto Viejo*, granted in 1842 by Governor Pro Tem Manuel Jimeno to Jose Antonio Estudillo (Avina 1932:70; Shumway 1988:62). This grant was also known simply as *Rancho San Jacinto*.

4.4.3 American Period (Post-1848)

Following the end of hostilities between Mexico and the United States in January 1847, the United States officially obtained California from Mexico through the Treaty of Guadalupe Hidalgo on February 2, 1848 (Cleland 1962:xiii). Thus, the American Period begins in 1848. In 1850, California was accepted into the Union of the United States, primarily due to the population increase created by the Gold Rush of 1849. The State's population, however, at least initially, was not evenly distributed, and the vast majority of individuals lived in the San Francisco Bay region and near the gold fields.

From 1875–1891, 31 Indian reservations varying in size from 99–32,353 ac and totaling approximately 250,000 ac were set aside primarily in the Riverside and San Diego County areas by executive order for the remnants of Mission Indian bands (Beck and Haase 1974:58). These reservations, known as "Mission Indian Lands," were set aside during a period of rapid population influx and were not adequately protected against agricultural, mining, and town expansion, so that much land was lost in boundary adjustments. In 1891, the currently existing lands were confirmed and permanently set aside by executive order. Mission Indian Lands offer the advantage of rent and tax-free residence to their Native American inhabitants. Today, 11 reservations exist in Riverside County. None of these reservations is located within the MCP APE. The nearest reservation, Soboba, lies just less than 4 mi east of the eastern edge of the APE.

From 1876–1890, the Southern Pacific Railroad Company promoted southern California through publicity, settlement agents, and land bureaus. During this period, railroad agents sold lots in southern California towns to prospective settlers, some as far away as Ireland, before they had booked passage for America. Perhaps the best-known examples of the railroads promoting sales in southern California were the excursion parties and emigrant trains.

An 1884 postal route map depicts little in the vicinity of the MCP APE, only Pinacate and San Jacinto (Preston 1988:43). The San Jacinto River is clearly depicted. The map also shows that the California Southern Railway existed, running inland along the Santa Margarita River from Oceanside to Temecula, then north to “Murietta,” Elsinore, Pinacate, and onto Riverside, where it meets the east-west running Southern Pacific Railway. This is far more than what is evident on an 1874 railroad map of California and Oregon, which shows only the east-west running Southern Pacific Railroad through Riverside (Preston 1988:22–23). The Southern Pacific Railroad and the Atlantic and Pacific Railroad had much more of a presence in Central California.

The community of San Jacinto was established in the 1850s on a portion of *Rancho San Jacinto Viejo*, which had been granted to José Antonio Estudillo in 1842. Anglo settlers began to arrive in the 1860s, and the San Jacinto School District was formed in 1868. The settlement initially began to develop around the store built ca. 1869 by Russian exile Procco Akimo (Gudde 1998:337). On July 27, 1870, the town added a post office. After a homicide by H.T. Hewitt, a leading businessman in the community, and ensuing litigation, the town experienced a decline in population, and in 1883 a formal town site was laid out a couple of miles north of the original settlement. The post office was relocated shortly thereafter, and the original settlement became known as Old Town, South San Jacinto, and finally, Bowers. In 1886, the population of San Jacinto numbered in excess of 1,500, and by 1888, the San Jacinto Valley Railway branch line from Perris was completed. San Jacinto was incorporated as a city in 1888.

When Riverside County was created on March 11, 1893, from portions of San Diego and San Bernardino Counties (Maslin 1911:316), the town of San Jacinto was designated as one of the 12 original judicial townships. The county name was taken from the City of Riverside, which was titled in anticipation of the diversion of waters of the Santa Ana River (Beck and Haase 1974:64).

Lakeview was named for its proximity to an ephemeral lake known as Lake Moreno, Brown’s Lake (Gudde 1998:201), or Mystic Lake (USGS 1901). Lakeview was established by Frank E. Brown of Redlands, who in 1893 purchased more than 10,000 ac of the Wolfskill Ranch, part of *Rancho Potrero San Jacinto Nuevo*. Brown, along with E.G. Hudson and other prominent Redlands speculators, founded the Lakeview Water Company. A post office was established here about 1895 (Gudde 1998:201), and the California Southern Railway, which later became the Santa Fe Railway, was persuaded to build an 8 mi spur to Lakeview, which was completed in 1898. The Lakeview station was constructed the following year. The spur line served Lakeview until 1937, when it was removed due to lack of business. Lakeview enjoyed a brief boom in the 1930s when the Colorado River Aqueduct was under construction nearby. The local hotel (Site 33-7246) and boarding house/cafe (LSA-SVC933-HA-28) served the aqueduct workers, and a prosperous apricot orchard dry-yard occupied the center of town.

Now known as the Lakeview Hot Springs (Site 33-7677), the hot springs just west of Lakeview were known first to the natives of the area, and then as the *pilares* (basin or bowl) to San Luis Rey Mission padres. They were later named the Ramona Hot Springs. Joseph Wolfskill acquired the land, which included the springs, and for a time they were known by his name. Twenty years after his 1859 arrival in California, Swiss immigrant Bernardo Bernasconi purchased property from Wolfskill, including the hot springs. Prior to the establishment of Lakeview, Wolfskill had placed a well at the springs that yielded sulfur water. Subsequently, Bernasconi’s wife Marcellini negotiated a deal with Wolfskill to

have six bathhouses constructed, and established the successful Bernasconi Hot Springs in the 1880s (Gudde 1998:33). When lots at Lakeview were first offered, residents camped out at the hot springs until their houses were completed. The hot springs continued to be popular and the property went through a succession of names as it changed hands over the years, including Ginsberg, Stewart, and finally Lakeview, until its water was cut off in the 1930s by the construction of the Colorado River Aqueduct.

The original town of Perris, located in the Perris Valley 1.5 mi south of the MCP APE, was incorporated in 1886 and named for Fred T. Perris, Chief Engineer for the California Southern Railway, and one of the founders of the town (Bright 1998:114; Gudde 1998:286). Perris Valley was originally San Jacinto Plains, named after *Rancho San Jacinto Viejo*. Before 1885, Perris had been located 2 mi south and was known as Pinacate after a local gold camp. When Riverside County was formed in 1893, Perris was also designated one of the 12 original judicial townships of the new county (Gunther 1984), and the town was incorporated as a city in 1911.

In the town of Perris, the Perris Indian School, Site 33-14109 was in use between 1893 and 1904. The historical site currently consists of a one-story house, several associated irrigation features, limited historical refuse including clay marbles, and building foundations that may be foundations of the Perris Indian School buildings (Cotterman et al. 2004). Originally constructed as a new Indian school with improved facilities and staff to help supplement the inadequate existing school system in California, the Perris Indian School opened in January of 1893 with eight students. More students had enrolled by March of 1893. Buildings at the school included a hospital, boys' and girls' dormitories, classrooms, employees' rooms, a dining hall, a kitchen, offices, a harness shop, engineering shop, a laundry building, a paint shop, and other ancillary buildings. Classes included academic subjects as well as training for employment that prepared girls to become domestic help and boys to become tradesmen in farm or industrial work. The school was closed in 1904, in part due to constant problems with contaminated drinking water (Cotterman et al. 2004).

From 1900 to 1940, the population of Southern California blossomed, increasing by a staggering 1,107 percent. While many credit the railroad for boom years, another belief is that the citrus industry was responsible for the region's exponential growth:

The economics of citrus and, specifically, the sheer scale of production, revenues, profits, and land development that attended the expansion of the citrus industry in Los Angeles and its hinterlands in the first four decades of the twentieth century belie a minor role. Citrus was simply too big an economic engine not to have powered the region's growth in a fundamental way. [Tobey and Wetherell 1995:12]

On April 6, 1917, the United States declared war on Germany. Congress responded by appropriating funds for the expansion of the Army's Air Service and the establishment of new airfields. On March 1, 1918, the Alessandro Aviation Field opened. Three weeks later, the field was officially named "March Field" for Lieutenant Peyton C. March, Jr., a pilot killed in an airplane February 13, 1918, in San Antonio, Texas (Gudde 1998:227). March Air Force Base is located approximately 3 mi west of Lake Perris and adjacent to the MCP APE, but it is no longer an active duty military installation.

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5.0 RESEARCH DESIGN

5.1 EXPECTED RESOURCE AND FEATURE TYPES AT SITE 33-16598

A total of 113 artifacts were recovered from Site 33-16598 during the Phase II testing and evaluation of the portion of the site within the MCP proposed right of way. The distribution of surface specimens (n=45) are as follows: biface fragment (n=1), core (n=1), core tool (n=1), debitage (n=6), discoidal (n=1, repatriated), edge-modified flake (n=1), manos and mano fragments (n=19, one of which has been repatriated), metate fragments (n=10), shallow basin fragment (n=1), and undifferentiated ground stone (n=4). Subsurface specimens (n=68) were recovered from the positive trenches and test units. Six trenches contained debitage (n=7), edge-modified flake (n=1), metate fragment (n=1), and a black tourmaline crystal (n=1, repatriated). Four positive test units contained debitage (n=52), metate fragments (n=4), and undifferentiated ground stone fragments (n=2).

No intact features are expected to be encountered, as all excavations will be limited to the upper 2 ft of the soil column within the active plow zone. These sediments have been repeatedly disturbed by plowing and deep ripping of the field, and any features present would have been displaced. In addition, the geoarchaeological studies have demonstrated that much of the cultural material present within the MCP right of way has been translocated downslope by alluvial processes.

5.2 EXPECTED RESOURCE AND FEATURE TYPES IN THE REMAINDER OF THE MCP CORRIDOR

5.2.1 Site Types

The following site types have the potential to be encountered during implementation of the current project:

- **Artifact Scatter:** This type of site contains a light surface scatter of artifacts such as cores, bifaces, ground stone or milling tools, pottery, and debitage. Artifacts scatters may represent short-term resting areas along trails, or special purpose sites associated with habitation/village sites. Ecofacts, such as bone and shell, are not present at sites of this type.
- **Habitation:** A habitation site contains a variety of ecofacts and artifacts, and may contain bedrock milling features, suggesting that many different activities were conducted. Habitation sites may have been occupied for a short period of time, seasonally over hundreds of years, or may represent a village site occupied throughout most of the year. When occupied for short periods of time, habitation sites are referred to as “short-term habitation sites.” When occupied by large numbers of individuals over a long period of time, habitation sites are referred to as “long-term habitation sites” or “villages.” In addition to well defined, often deep, cultural deposits (midden), indications of habitation sites are the presence of fire hearths and burned bone, indicating that cooking occurred.

- **Historic:** Historic sites are those with structures or remains of historic activities greater than 45 years old.
- **Lithic Scatter:** A lithic or flake scatter contains a scatter of only flaked stone tools such as cores, lithic debitage, or bifaces that may have been created from one or more distinct lithic reduction episodes. If no subsurface distribution is evident, a lithic scatter is often referred to as a “sparse lithic scatter” (Jackson et al. 1988).
- **Milling Station:** A milling station is a locality where the primary activity consisted of milling. The majority of artifacts at a milling station are milling tools such as manos, metates, mortars, and pestles. A bedrock milling feature may or may not be present. A light scatter of ceramics and lithic debris may exist, but ecofacts such as bone and shell, which indicate a habitation site, will be absent.
- **Isolated Finds:** Isolated finds consist of fewer than 3 artifacts in a 100 square-meter area.

5.2.2 Feature Types

Archaeological features that could be encountered during construction of the MCP project include burials/cremations, hearths, caches, cairns, trash pits, and historic infrastructure features.

5.3 RESEARCH THEMES AND QUESTIONS

The following research themes and questions follow the research design that was developed for the archaeological evaluation phase of the MCP (Delu and Lange 2011) project.

The manner by which archaeological material will be recovered and analyzed at a site is based on the formulation of research questions associated with eight research domains. The domains serve to focus research on regionally important research issues and have been developed in an attempt to identify basic knowledge common to archaeological research as well as to resolve data gaps in the archaeological record. As the domains represent different elements of human behavior, they frequently overlap. The eight research domains proposed for this project include the topics of Settlement Patterns, Chronology, Site Structure and Function, Site Formation Processes, Subsistence Base, Trade and Economic Exchange, Ritual and Ceremony, and Gendered Behaviors. A brief discussion of each domain, and pertinent research questions for each research domain, are presented below.

5.3.1 Settlement Pattern Domain

Settlement pattern is the term used for a spatially ordered system of land use; depending on the subsistence base of a given group and its relations with neighbors, local environmental variables, plus historical factors, people use and leave patterned distributions on their landscape (Hester et al. 1997). Settlement patterns are similar to site structure and function as described below, but on an inter-site rather than an intra-site scale. Settlement patterns are, thus, based on the relationship between sites rather than the relationship between factors within one site. Recognition of settlement patterns in the archaeological record is difficult and is being constantly reconsidered and reexamined (Willey 1953; Thomas 1983; Kelly 1985; Shackley 1987; Kelly and Todd 1988; Parr and Sutton 1991), with the

increased use of geographic information systems (GIS) over the past decade as a tool in spatial analysis.

Research Questions for the Settlement Pattern Domain:

- Are there statistical changes in the proportion of site elements (milling slicks, occupation loci, ceremonial areas, etc.) from various temporal periods?
- Are there changes in site complexity through time?
- Can a site be linked to ethnohistoric accounts of sites in the area?

5.3.2 Chronology Domain

Site chronology issues are of basic importance in the framework of archaeological research and interpretation. Understanding the chronology of sites within the proposed right of way is fundamental to examining questions of cultural process and diachronic change in cultural patterns. Precision and accuracy of age determinations are critical to the analytical strategies and research objectives, since the dating of site occupation and the accompanying artifacts and ecofacts provides the baseline by which all other research topics are addressed.

There are two kinds of dating, or chronometric control, utilized in archaeology: relative and absolute. Prior to 1948 and the archaeological revolution sparked by the application of radiocarbon dating to archaeological contexts, the only absolute chronometric method available was dendrochronology, or tree-ring dating, which is only applicable to parts of the North American Southwest. Thus, prior to 1948 all chronological ordering of sites was based on relative dating (also referred to as cross-dating). Since 1948, radiocarbon measurements have gradually accumulated for the proposed right of way and surrounding area, but are still relatively limited in quantity and reliability. This research domain provides a brief summary of the potential for application of both kinds of chronological control, and summarizes the available comparative chronological database for the project.

Research Questions for the Chronology Domain:

- When was the MCP project area first occupied?
- What is the chronological range of sites in the MCP APE?
- What is the specific chronology of individual cultural components of a site?
- Are there temporally diagnostic artifact types or materials from a site that can corroborate the chronological placement of the site?
- What do the presence of diagnostic artifact types and/or materials (if present) suggest in terms of site age in comparison to similar sites (if they exist) in other areas adjacent to the proposed right of way, as discussed above?

5.3.3 Site Structure and Function Domain

Once a site has been located and an attempt has been made to place it in a chronological context, its structure and function can be addressed. Structure and function relate to the spatial manner in which a site was occupied and utilized, both horizontally and vertically, and provide the intra-site context for subsistence and other categories of data. Archaeological patterns of social behavior may be identified through the remains of material discovered at the site, and this patterning may help to provide information concerning site structure and function. It must be noted that archaeological remains are a distorted and partial remnant of past human behavior. Much of what was discarded in antiquity was not only broken and fragmented but it may be completely missing, eroded away, or disintegrated over the millennia. What is found during excavation is always only a fragment of what originally existed at the site.

Research Questions for the Site Formation Domain:

- Is the site located in an erosional environment, in a depositional environment, or a combination of the two?
- If located in a depositional environment, does the site appear to have a relatively even stratigraphic deposition that can be used for chronological purposes?
- Are there other indicators of site formation that are apparent, such as relatively unweathered ecofacts that would have to be buried quickly to be preserved, or aeolian deposits that would have been deposited during periods of low moisture?
- Are there other site formation factors, such as bioturbation, that have affected site formation?

5.3.4 Subsistence Base Domain

Historically, southern California archaeology has focused on the role that acorns played in the inland areas, marine resources on the coast, and the processing of seeds and grasses on the ubiquitous milling slicks found throughout much of the landscape. In the past two decades, there has been a more careful assessment of the importance of acorns in the prehistoric diet; it is now commonly believed that, while a small percentage may have always been part of the diet, the dietary emphasis on acorns developed only in the protohistoric and early historic period (Basgall 2004).

Through time, the consensus view of subsistence has changed to a more generally known pattern of hunters and gatherers, where vegetal resources were used in the amounts that were available by direct access in particular locations, or by moving to areas for direct access. The basis of the subsistence pattern is those vegetal resources that required a minimum of preparation (in comparison with the intensive processing required by acorns) (Basgall 2004). The animal component of the diet was apparently from small animals, with a minimum of large animal hunting.

An effort will be made to use all cultural materials, artifacts, and ecofacts to determine subsistence base at a site. An attempt to locate and identify all cultural material from a site will be made so that the full spectrum of site use can be identified.

Research Questions for the Subsistence Base Domain:

- Are there identifiable changes in the proportion of different artifact types, such as flaked and ground stone, over time?
- Are differences in food resources or artifact types identifiable from various temporal periods at a site?

5.3.5 Trade and Economic Exchange Domain

The analysis of raw materials from which artifacts are fashioned can be a useful tool that aids in the identification of the place of origin of that particular artifact (or at the very least, the origin of the raw material). Furthermore, based on the presence of distinctive non-local raw materials at a site, the movement of goods can be investigated and, at times, whole exchange systems can be reconstructed (Renfrew and Bahn 1991:307). California Indians developed sophisticated exchange systems to optimize resource distribution over large areas, and materials such as acorns, salt, fish, shell artifacts, clothing, lithic raw materials such as obsidian, bows and arrows, and baskets were transported over a trail of networks as documented at sites from the Late Prehistoric Period (Moratto 1984:4–5; Davis 1961). Renfrew and Bahn (1991:307) note that “finds of the actual goods exchanged are the most concrete evidence that the archaeologist can hope to have for determining the contact between different societies.” Since artifact forms can be imitated, the use of stylistic comparisons to similar artifact forms found in other regions is problematic in discussions of trade and economic exchange, unless there is also an identifiable non-local source material used in conjunction with style.

Comparisons of the lithic materials used most often, and in various levels at site, will be useful since the preferential use of exotic/imported lithic material will help to identify trade and economic exchange. Chalcedony (including jasper and agate) found in the region is commonly sourced from the Mojave and Colorado deserts. These materials, along with obsidian, appear to have been valued prehistorically because it flakes easily and holds a sharp edge.

Used for knives and projectile points, obsidian was traded from the Coso Range, Fish Springs, Casa Diablo, and Bodie Hills in eastern Central California, from Obsidian Butte in eastern southern California (Ericson 1977:114) in the Sierra Nevada, as well as from other sources. According to Hughes and True (1985), trade during the Middle Holocene (Milling Stone Period) was from the north with obsidian sources in the Coso Range. During the late Holocene (Late Prehistoric Period), trade in obsidian was primarily from the south and east with the Obsidian Butte source at the southern end of the Salton Sea used extensively.

Singer and Ericson (1977:181–182) show that the Bodie Hills obsidian quarry was used primarily as a single-activity site devoted exclusively for the production of bifaces and blades for export. The site was used as early as 6000 BC, reached a maximum use during a period about 2,500 years ago, and then underwent a dramatic decline approximately 1,500 years ago. This was approximately the same time that the Obsidian Butte source began to be used and traded, although it is possible that other factors resulted in a dramatic decline in the use of the Bodie Hills quarry. Relative chronological data can be derived from obsidian hydration measurements, which, when combined with obsidian source data, can address the question of whether obsidian source changed through time, how it changed, and how this might reflect patterns of intra-regional exchange.

Research Questions for the Trade and Economic Exchange Domain:

- Do traded materials occur at the site? What are the traded materials (or items) and from where do they originate?
- What are the types of raw materials recovered? Does there appear to be preferential use of exotic/imported lithic material?
- If there are distinctive non-local raw materials at the site, what is the projected minimum distance that the item(s) would have traveled to be present on the site?
- For artifacts and/or raw materials that have been identified as non-local, are there specific artifact types that occur on the site? Furthermore, are these items related to particular food resources found from specific periods?
- Are ceramics, if any, within the site locally produced or from distant areas?
- On items that have been identified as non-local, are there any diagnostic style markers that might also tie the item in with another distant cultural group?
- Can the act of trade be distinguished from the act of procurement in the archaeological record?

5.3.6 Ritual and Ceremony Domain

In cultures throughout the world, from birth to death, people's lives are surrounded by ritual and ceremony. Specific rites vary by age and gender, and a good portion of the prayers, songs, and chants that were created (or adapted) on a cyclical or as-needed basis have been lost forever from pre-literate or non-literate societies. Birth, coming of age, and death associated rituals and ceremonies are the most common rituals conducted universally, regardless of cultural affiliation. How can archaeology contribute to the understanding of the importance of ritual and ceremony in the lives of the native peoples who inhabited the region that the MCP project crosses?

At the portable artifact level, definition of ritual or ceremonial use again depends either on reliable ethnographic analogy along with information about the archaeological context. For example, recent studies have identified rattles as one of the most commonly documented native ceremonial artifacts (Strudwick and Koerper 2006:147). Historically, turtle shell rattles are documented from Cahuilla, Gabrielino, Luiseño, Juaneño, and Chumash territory (Dubois 1908:181, 183; Hudson et al. 1977:82, 84; Wallace 1980:106; White 1963:130; Bean 1978:580; McCawley 1996:93, 180–181). Prehistorically, punched *Argopecten* spp. (pecten) shell was used for rattles (D.B. Rogers 1929:415; Winterbourne 1940:40; Ross 1970; Ahlering et al. 1971:107–108; Koerper and Drover 1983; Cottrell et al. 1985:17; Koerper et al. 1988:234; Strudwick 2004:24) just as punched turtle shell was used historically. A punched pecten shell from CA-RIV-202, located on the north side of the Bernasconi Hills, less than 1.0 mi north of the current proposed right of way, is thought to have been used as a rattle (Mix 1974:139–141). Temporally diagnostic artifacts, including Cottonwood Triangular projectile points and Tizon Brown and Lower Colorado River Buff Ware, date site occupation at CA-RIV-202 to the Late Prehistoric Period (Bettinger 1974:161).

Research Questions for the Ritual and Ceremony Domain:

- How securely can ethnographic sources be linked with the archaeological past?
- Does the ethnographic record represent the full range of esoteric knowledge from the groups from which particular data were recovered?
- What non-human remains and non-stationary artifacts (e.g., naturally occurring materials such as ochre, obsidian, and clay) can be identified as having ritual and ceremonial connections?
- Are artifacts such as shell and/or turtle rattles always indicators of ritual and ceremony, or is this a bias of the ethnographic record given the orientation of early anthropologists?

5.3.7 Gendered Behaviors Domain

When gender studies became more popular in archaeology approximately two decades ago, the initial efforts were to “catch-up” for lost time and to emphasize the need to pay more attention to feminine presence and behavior in the archaeological record (Joyce and Claassen 1997). With the passage of time, the use of the term “gender” has become more broadly applied to both male and female behaviors in the archaeological record. The study of gender and archaeology has matured to trying to distinguish between behaviors performed by the different genders, or to identify behaviors in which gender assignment was fluid, or not possible to characterize at all.

Studies citing the relationship of gender with specific tools are not common for the project area, although gender-related information for prehistoric California exists as a whole (Kroeber and Barrett 1960:95; E. Wallace 1978). Willoughby (1963) and Koerper et al. (2002:27–28) state that activities performed primarily by men included those that used tools such as projectile points, fishhooks, cores, flakers (flint-knappers), and biface preforms, while female activities included those that used tools such as ground stone and awls. Koerper et al. (2002:28) state that the Late Holocene Period specialized activity sites appear to be gender-related activity areas, most of which contain projectile points, biface preforms, and cores. A second type of gender-based activity area, thought to have been used by women contained ground stone tools and angular hammerstones and abraders used to maintain the ground stone. Projectile points, biface preforms, and cores are entirely absent at these small specialized activity sites.

Gender-specific information concerning the native groups in the area is not well documented. Jackson (1991) suggests that bedrock mortars mark an increase in the role women had in food production; that the shift to acorn-based subsistence resulted in a reduction in foraging mobility. This suggests, as Binford would describe it, an increased logistical mobility associated with “collectors.” This would also suggest an increased sedentism as residential bases were occupied for longer periods of time. A recent development using this concept of increased “logistical mobility” is related to an increase in the division of gender-specific food production activities (Jones 1996). Although the social division of labor in hunter-gatherer cultures has long associated women with residential-based labor and men with mobile pursuits such as hunting (Jochim 1988; Jones 1991:435, 1996:245), a significant and necessary change in the social behavior of the prehistoric California area may have begun at the inception of the Intermediate Period, ca. 3400 BC, as suggested by Jones (1996:260) for the Big Sur area. It is possible that similar changes in resource intensification and gender-based processing occurred in the inland California region. It is important to note that both seed collecting and acorn harvesting were seasonal activities with limited windows of production. While the data are not strong

for any particular point of view, it would intuitively seem that when a short-term resource was being collected to store for future use, that all human resources (men, women, young, and old) would have played some role in the gathering, processing, and storage of time-sensitive food stuffs. These short-term, intensive collecting and processing activities might be characterized as the “all hands on deck” subsistence strategy.

The Gendered Behaviors domain is the appropriate summary domain for this research design. Gendered Behavior plays a role in all of the other seven domains presented here. Although, as alluded to in the discussion of Subsistence Base domain, there are traditional views of gender roles, the very limited ethnographic data suggest that the reality is quite different from the “men did this, women did this” model. The existing assumptions need to be re-evaluated with fresh analyses of site loci and artifact complexes. For example, bedrock milling (both slick isolates and complexes) needs to be more closely examined as possible gender-specific loci and co-gender loci. Admittedly, there are few solid data in hand at the moment that speak to gendered behavior, but if we do not begin asking the questions and tailoring our research, testing, and data recovery toward the study of gendered behaviors, we will never improve our understanding on the topic.

Research Questions for the Gendered Behaviors Domain:

- What does the ethnographic record inform us about gendered behaviors in the project area?
- Does a site have loci that can be identified as areas of specialized gender activities?
- Do the artifacts that were found suggest any gendered behaviors?
- Are there indications of gender-distinct activities at one time of the year, or for certain purposes, and co-gender activities at other times of year and for other purposes?
- Does the traditional model of “woman the gatherer/man the hunter” stand up in the case of a particular site?

6.0 BURIED SITE TESTING

In order to minimize the potential of encountering significant subsurface archaeological deposits during construction of the MCP, the RCTC will implement a buried site testing program to confirm that no buried archaeological material is present in areas outside of known archaeological sites. A buried site testing program can also eliminate the need for controlled grading in areas where archaeological deposits have not been previously identified because if the results of the buried site testing are negative, it will have been demonstrated that the area is not sensitive for buried archaeological material. Areas to be considered for the buried site testing program will be identified by a number of factors, including but not limited to geographical and geological information, and known site proximity.

The buried site testing program will consist of identifying areas where excavations deeper than 2 ft are planned. A minimum depth of 2 ft is selected as it is expected that areas identified as sensitive for buried archaeological deposits will be located in alluvial deposits, the vast majority of which are currently in agricultural use. Regular plowing of these areas would have likely exposed evidence of any buried deposits shallower than 2 ft. The potential for these areas to contain buried archaeological deposits will then be examined based on geologic mapping and environmental factors such as available water sources. These areas will be identified following completion of final design of the MCP project. The areas to be examined as part of the buried site testing program would be determined by the project archaeologist as part of a detailed buried site testing proposal that would be developed in consultation with FHWA, Caltrans, RCTC, and the Tribes.

Prior to construction-grading activities, these areas would then be investigated by the project archaeologist directing the excavation of backhoe trenches and examining the trenches and spoils for archaeological deposits. Any buried site testing program would include Native American monitoring of the excavations.

If buried archaeological deposits are encountered, the methods and protocols described in Section 8.0 will be followed.

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7.0 MONITORING

7.1 PURPOSE

This DMP has been prepared to ensure that construction of the MCP is in compliance with 36 CFR Part 800, the regulations implementing the NHPA; the Section 106 Programmatic Agreement executed January 1, 2004; and CEQA. Implementation of this DMP also fulfills Stipulation V of the project MOA.

Implementation of the DMP will ensure that significant archaeological resources are not adversely affected by construction of the MCP and that any potential adverse effects are resolved in a timely manner. Implementation of the DMP will also ensure that cultural materials of significance both archaeologically and to the Tribes are recovered from Site 33-16598 during construction of the MCP. In addition, implementation of the DMP will ensure that the ESAs at Sites 33-3653, 33-16598, and an area east of Bernasconi Road, just outside the APE for the MCP project, that has been determined to be sensitive through tribal consultation, are not inadvertently impacted by MCP project construction.

7.2 NEED

The project will impact known cultural resources and has the potential to impact unknown resources that may be buried. While project-related construction within the boundaries of National Register-eligible Site 33-16598 will occur in sediments that have been shown to not contain intact archaeological deposits, this portion of the site does have the potential to contain artifacts considered sacred by the Tribes. The entire MCP corridor is considered sensitive for buried archaeological resources. Based on geologic mapping, three types of Holocene sediments (10,000 years ago to the present) will be crossed by the project. In addition, areas mapped as late to middle Pleistocene sediments (10,000 to 300,000 years ago) are crossed by the project. While these areas are mapped as Pleistocene age sediments, they include the entire alluvial fan portion of Site 33-16598, where deeply buried archaeological deposits have been documented (Lerch and Cannon 2008). The MCP also traverses upland areas of igneous bedrock with shallow sediments. While these areas are considered less sensitive for buried archaeological materials, they are also the areas where several bedrock milling sites were identified during the MCP studies. While the MCP studies did not identify any buried archaeological material at these sites, the possibility of encountering buried archaeological materials during construction of the MCP does exist.

7.3 ARCHAEOLOGICAL MONITORING

7.3.1 Specific Requirements of this DMP

- i) At least one qualified archaeological monitor, under the supervision of a person or persons meeting the qualifications discussed in Stipulation II.A, must be present during construction activities at each construction locale situated in native soils. The number of monitors required will be determined by the nature of the construction activities and the amount of equipment

excavating at each construction locale. The number of monitors required will be determined by RCTC's Resident Engineer for construction in consultation with the project archaeologist.

- ii) At least one Native American monitor must be present during construction activities at each construction locale situated in native soils and such monitoring will meet the California Native American Heritage Commission's Guidelines for Native American Monitors/Consultants Native American Cultural, Religious, and Burial Sites, approved September 13, 2005 (Appendix F). The number of monitors required will be determined by the nature of the construction activities and the amount of equipment excavating at each construction locale. The number of monitors required will be determined by the RCTC in consultation with the project archaeologist. Where a Tribe is not designated as the Native American monitor in a specific location, the Tribe's monitors are welcome to monitor that location on an unpaid basis.

Prior to construction, a Draft Monitoring Agreement will be prepared. The Draft Monitoring Agreement will provide the details regarding how the monitoring will proceed. Aspects of the Native American monitoring program will be listed and described. These will include but are not limited to: a) which Tribes will be participating in the monitoring; b) the locations within the APE where the monitoring will occur; and c) further details concerning the rotation of Native American monitors as discussed above. Concurring Tribes that choose to participate in the monitoring will have the opportunity to provide input on the Draft Monitoring Agreement before it becomes finalized by the Transportation Agencies.

- iii) The project archaeologist and the Native American monitoring coordinators must be present at the pre-construction meeting to explain the established procedures in the DMP, including the Burial Treatment Plan, to the RCTC-contracted construction manager, the contractor(s), and all construction supervisors. The meeting will include an overview of cultural resource laws and common cultural materials/evidence to watch for. Prior to working on any construction locale of the project, all archaeological monitors, Native American monitors, and construction personnel will attend a presentation by the project archaeologist that explains the established procedures in the DMP, including the Burial Treatment Plan, as well as an overview of cultural resource laws and common cultural materials/evidence to watch for. Attendees will receive a sticker certifying that they have completed the pre-construction cultural resource training. Any new personnel who work on the project will be required to complete the cultural resource training prior to working on any construction locale for the project.
- iv) A chain of command to alert the monitors regarding the schedule and location of construction activities will be established prior to construction and included in the Draft Monitoring Agreement. The contracted construction manager must provide the project archaeologist and the Native American monitor with a weekly schedule of all construction activities planned for the following week. The archaeologist and the Native American monitor will be provided with site and grading development drawings, and any staging area locations. For safety purposes, prior to entering the construction site, the archaeologist will meet and confer with the contracted construction manager.
- v) The portion of National Register Site 33-16598 within the area of direct impacts will be excavated using a controlled grading methodology as described in Section 8.2.4 of this DMP in order to maximize the potential recovery of cultural resources. The Buried Site Testing program described in Section 6.0 will not apply to any portion of National Register Site 33-16598.

- vi) In the event of the discovery of new archaeological resources, the protocols described in Sections 7.3.2, 7.3.3, and 7.3.4 must be followed.
- vii) The protocol for the unanticipated discovery of human remains, as described in the Burial Treatment Plan (Appendix D), must be followed.
- viii) The RCTC will electronically provide monthly archaeological monitoring status updates to the Signatories and Concurring Parties of the MOA.
- ix) The final archaeological monitoring report will meet the standards discussed in Stipulation II.B of the MOA.
- x) Per the current Caltrans standards and protocols, all collected archaeological material will be curated at an appropriate facility as further discussed in Section 8.3.

7.3.2 Criteria for Stopping or Redirecting Construction and Chain of Command

If previously unidentified archaeological materials are discovered, the archaeological monitor and the Native American monitor will be authorized to stop and redirect construction work in order to assess the significance of the find, and a buffer zone required for work stoppage in the vicinity of the inadvertent discovery will be established in consultation with the project archaeologist. The methodology discussed in Section 8.0 will then be followed to assess the significance of the find. Any significance determinations will be done in consultation with the SHPO. The contractor's construction contract for the project will include language advising it and its subcontractors that the archaeologist and the Native American monitor will have such authority. In order for construction work to be halted or redirected, specific criteria of potential significance will need to be met. These include:

- The identification of possible human remains;
- The identification of a prehistoric archaeological feature such as a fire hearth or cairn;
- The identification of an intact midden deposit;
- The identification of three prehistoric artifacts within a 10-square-meter area;
- The identification of discrete historic refuse concentrations that are not exempt from evaluation per the Section 106 PA; and
- The identification of historic features that are not exempt from evaluation per the Section 106 PA.

If any of these criteria are met, the archaeological monitor and the Native American monitor will have the discretion to halt or redirect construction, if necessary, in order to protect the resource until it can be further investigated. The archaeological monitor will notify the archaeological monitoring coordinator. The archaeological monitoring coordinator will notify the Caltrans District 8 Branch Chief/Cultural Studies and the RCTC project development director of the discovery. The Caltrans District 8 Branch Chief/Cultural Studies will notify the FHWA. If the discovery is prehistoric in nature, Caltrans, on behalf of the FHWA, will notify the consulting Tribes/groups of the find as part of the Section 106 consultation process. The consulting Tribes/groups consist of the Agua Caliente Band of Cahuilla Indians (Agua Caliente Band), the Cahuilla Band of Indians, the Gabrieleno/Tongva San Gabriel Band of Mission Indians (Gabrieleno/Tongva), the Gabrielino Tongva Nation, the Morongo Band of Mission Indians (Morongo), the Pechanga Band of Mission Indians (Pechanga), the

Ramona Band of Cahuilla (Ramona Band), the San Manuel Band of Mission Indians (San Manuel Band), and the Soboba Band of Luiseño Indians (Soboba). The complete contact list of the 14 individuals to be contacted from these Tribes/groups is included in Appendix C.

If human remains are identified, the archaeological monitor will also follow the protocol for the discovery of human remains contained in the MCP Burial Treatment Plan (Appendix D).

7.3.3 Previously Recorded Resources

Six previously recorded archaeological resources have been identified within the area of direct impacts. These resources include four milling stations without artifacts (Sites 33-19862, 33-19863, 33-19864, and 33-19866), one prehistoric multi-use site (Site 33-16598), and one historical archaeological resource (Site 33-19865). Of the six archaeological properties evaluated in the APE, one property (Site 33-16598) is eligible for the National Register and the California Register under Criteria A/1, C/3, and D/4. The portion of Site 33-16598 outside of the area of direct impacts will be designated as an ESA to prevent inadvertent impacts to that portion of the site during project construction. The four bedrock milling sites within the APE (Sites 33-19862, 33-19863, 33-19864, and 33-19866) are assumed eligible for the National Register for the MCP project. The historical archaeological site (Site 33-19865) is not eligible for the National Register or California Register under any criteria. One previously recorded milling station without artifacts (Site 33-3653) is located adjacent to the area of direct impacts and will be designated an ESA.

Avoidance of a Portion of Site 33-16598. During final design, RCTC's Project Engineer will designate the part of Site 33-16598 outside the project disturbance limits as an ESA on the project design plans. The boundary of that part of the site will be mapped by the project archaeologist and the Native American monitor for incorporation in the final design mapping. That ESA will not be shown as a cultural site on the final design plans to avoid unauthorized artifact collection or other vandalism to the site.

Prior to any ground-disturbing activities in the vicinity of Site 33-16598, RCTC's Resident Engineer will require the construction contractor to provide fencing or flags around the boundary of the site in and near the APE. The project archaeologist and the Native American monitor will monitor the installation of the ESA fencing/flagging. Removal of the ESA fencing will occur when all construction activity in the vicinity is completed and will be monitored by the project archaeologist and the Native American monitor as well.

The area in the project disturbance limits near or adjacent to the ESA boundary will be monitored continuously by the project archaeologist and the Native American monitor during all ground-disturbing and construction activities in this area.

The RCTC Resident Engineer will require the construction contractor to maintain the fencing/flagging throughout the entire construction period in this area. The project archaeologist will monitor the condition of the fencing/flagging at a minimum of once a week, and will report the need for any repairs to that material to the RCTC Resident Engineer and the construction contractor.

Specific Site 33-16598 Construction Procedures. During the Phase II testing and evaluation of the site, several artifacts considered sacred by the Tribes were recovered and reburied outside of the area of direct impacts. In order to maximize the potential recovery of artifacts considered sacred by the Tribes, the portion of the site within the area of direct impacts will be excavated using the controlled grading methodology described in Section 8.2.4 of this DMP. Controlled grading will continue to the maximum depth of overexcavation planned for the area (approximately 2 ft). The grading will be done with individual lifts of approximately 4 inches or less, if possible. Sample screening through 1/8-inch mesh hardware cloth will be conducted, and unscreened back dirt piles will be raked and inspected for cultural materials. As was done during the Phase II testing and evaluation of the site, any artifacts considered sacred to the Tribes will be reburied outside the area of direct impacts with the prior reburied artifacts.

Avoidance of Site 33-3653. During final design, RCTC's Project Engineer will designate the part of Site 33-3653 near the project area of direct impacts as an ESA on the project design plans. The boundary of that site near the area of direct impacts will be mapped by the project archaeologist and the Native American monitor for incorporation in the final design mapping. That ESA will not be shown as a cultural site on the final design plans to avoid unauthorized artifact collection or other vandalism to the site.

Prior to any ground-disturbing activities in the vicinity of Site 33-3653, RCTC's Resident Engineer will require the construction contractor to provide fencing or flags around the boundary of the ESA. The project archaeologist and the Native American monitor will monitor the installation of the ESA fencing/flagging. Removal of the ESA fencing will occur when all construction activity in the vicinity is completed and will be monitored by the project archaeologist and the Native American monitor as well.

The area in the project disturbance limits near or adjacent to the ESA boundary will be monitored continuously by the project archaeologist and a Native American monitor during all ground-disturbing and construction activities in this area.

The RCTC Resident Engineer will require the construction contractor to maintain the fencing/flagging throughout the entire construction period in this area. The project archaeologist will monitor the condition of the fencing/flagging monthly and will report the need for any repairs to that material to the RCTC Resident Engineer and the construction contractor.

Avoidance of the Archaeologically Sensitive Area East of Bernasconi Road and North of the APE. During final design, the RCTC Project Engineer will designate the area north of the APE for 1,000 ft east of the intersection of Bernasconi Road and Ramona Expressway as an ESA on the project design plans. That ESA will not be shown as a cultural site on the final design plans to avoid unauthorized artifact collection or other vandalism to the area.

Prior to any ground-disturbing activities in the vicinity, the RCTC Resident Engineer will require the construction contractor to provide fencing or flags around the boundary of the ESA. The project archaeologist and the Native American monitor will monitor the installation of the ESA fencing/flagging. Removal of the ESA fencing will occur when all construction activity in the vicinity is

completed and will be monitored by the project archaeologist and the Native American monitor as well.

The area in the project disturbance limits near or adjacent to the ESA boundary will be monitored continuously by the project archaeologist and a Native American monitor during all ground-disturbing and construction activities in this area.

The RCTC Resident Engineer will require the construction contractor to maintain the fencing/flagging throughout the entire construction period in this area. The project archaeologist will monitor the condition of the fencing/flagging monthly and will report the need for any repairs to that material to the RCTC Resident Engineer and the construction contractor.

Discovery of Archaeological Remains. If construction work encounters previously unidentified and potentially significant archaeological remains at any location during the course of construction, work in the area of the find will be stopped and redirected until the Caltrans District 8 Branch Chief/Cultural Studies, can determine an appropriate course of action. In the event that work is halted or redirected, the archaeological monitor will record the reason for redirection of work on the archaeological monitoring form. If human remains are identified, the archaeological monitor will also follow the directions for the discovery of human remains, provided below.

7.3.4 Identification of Human Remains

If human remains are identified, the protocol for the discovery of human remains contained in the MCP Burial Treatment Plan (Appendix D) will be followed.

8.0 METHODS

8.1 MANAGEMENT GOALS

If newly discovered cultural resources or newly discovered elements of known resources are discovered during construction of the MCP project, the finds will be presumed eligible for the National Register in order to expedite the treatment of the find unless they are determined to be exempt from evaluation per the First Amended Section 106 Programmatic Agreement executed in January 2014. To manage any such discoveries the following goals have been established:

- Establish the horizontal and vertical site extent within the MCP right of way;
- Establish the type and quantity of cultural material found at the site;
- Date all identified site components;
- Assess the physical integrity of the site; and.
- Establish an ESA to prevent any portion of a site that extends beyond the MCP right of way from being impacted by the MCP project.

8.2 FIELD METHODS

The specific field methods employed to achieve the management goals will depend on the nature of the find. Specific methods that may be used include the excavation of Shovel Test Pits (STPs); 1 x 1 meter excavation units; mechanical trenching; and controlled grading. All work will be done by a qualified archaeologist as per Attachment 1 of the 2014 Section 106 PA.

8.2.1 Shovel Test Pits (STPs)

STPs are preliminary tests for the presence of subsurface cultural deposits and are useful for defining the horizontal and vertical extent of sites that do not exceed 100 centimeter in depth. STPs measure approximately 30 centimeter in diameter and are excavated in 20 centimeter levels until culturally sterile soil, bedrock, or 100 centimeter in depth is reached, whichever is higher, with the ground surface serving as reference for depth measurements. Excavated fill is screened through 1/8-inch mesh hardware cloth, recovered cultural material is collected and bagged by level, and typical provenience labeling information is provided. On each site, STPs are numbered sequentially (e.g., STP-1, STP-2) and their locations plotted on the site map. For sites that exceed 100 centimeters in depth, alternative methods such as excavation units and/or mechanical trenching will need to be employed.

8.2.2 Excavation Units

Excavation units are employed to investigate areas within sites in a controlled manner or for investigating features or concentrations. Manually excavated units are used to recover a representative sample of subsurface artifacts with controlled depth information, and to expose larger subsurface exposures than are afforded by STPs in order to assess the integrity of subsurface deposits or to expose the nature and limits of archaeological features. Units measuring 1 x 1 meter, and are excavated in 10 centimeter levels until either sterile soil or bedrock is encountered. Test units are numbered by sequential designation within sites (e.g., Unit 1, Unit 2). The northwest corner of each test pit is designated the unit's datum for elevation control. Hand excavation of test units is accomplished using shovels, trowels, and picks, depending on the composition of the sediments and the nature of the cultural deposits. In feature contexts, trowels and other small implements are employed.

All excavated sediments are screened through 1/8-inch mesh hardware cloth. Recovered cultural materials are bagged, labeled by provenience, and transported to the lab for processing and analysis. Fire-affected rock is counted, weighed in the field, and discarded. Special samples such as bulk soil samples for macrobotanical analysis, pollen samples, and charcoal samples are collected when appropriate at the discretion of the project archaeologist. Each excavator completes level record forms describing sediments, cultural material, disturbance, and other relevant observations. Upon unit completion, a minimum of one sidewall is profiled and photographed.

8.2.3 Mechanical Trenching

If deeply buried archaeological resources are discovered, mechanical trenching may be employed to investigate the nature of the discovery or to remove overburden. Sample screening through 1/8-inch mesh hardware cloth will be conducted from each 20 centimeters lift when removing overburden, and unscreened back dirt piles will be raked and inspected for cultural materials. When the level of the buried archaeological resource is reached, a combination of hand excavation methods in conjunction with mechanical trenching will be employed. Mechanical trench forms describing sediments, cultural material, disturbance, and other relevant observations will be completed for each trench. Upon trench completion, a minimum of one sidewall is profiled and photographed.

8.2.4 Controlled Grading

The final method that may be employed to recover information from a site, following manual excavation and the combination of mechanical trenching and manual excavation methods, is controlled grading. Controlled grading will be used at the discretion of the project archaeologist in coordination with the consulting Tribes and will only be employed in areas that will be destroyed by construction. Controlled grading uses either a road grader or scraper to make passes over an area and remove thin layers (approximately 4 inches) of sediment with each pass. Sample screening through 1/8-inch mesh hardware cloth will be conducted from each pass, and unscreened back dirt piles will be raked and inspected for cultural materials. The grading will be closely monitored and potential features flagged for investigation by manual excavation units. Isolated artifacts are collected and their location documented with a handheld GPS unit. Controlled grading will also be employed within the portion of Site 33-16598 where overexcavation is required in order to maximize the recovery of

archaeological materials. Controlled grading will not be used at any time in direct contact with known burials, cremations, or grave goods.

8.2.5 Native American Monitoring

A Native American monitor determined by the RCTC will be present at all excavations conducted for the project. Native American monitoring will be performed as detailed in Section 7.3 of this DMP.

8.2.6 Establishing New Environmentally Sensitive Areas (ESAs)

In the event an archaeological site is discovered, either during the Buried Site Testing Program or during construction, that extends beyond the MCP area of direct impacts, an ESA will be established along the edge of the area of direct impacts at the site location. If the site is discovered prior to construction, RCTC's Project Engineer will add the area as an ESA on the project design plans. The boundary of that site near the area of direct impacts will be mapped by the project archaeologist and the Native American monitor for incorporation in the design mapping. That ESA will not be shown as a cultural site on the design plans to avoid unauthorized artifact collection or other vandalism to the site.

RCTC's Resident Engineer will require the construction contractor to provide fencing or flags around the boundary of the ESA. The project archaeologist and the Native American monitor will monitor the installation of the ESA fencing/flagging. Removal of the ESA fencing will occur when all construction activity in the vicinity is completed and will be monitored by the project archaeologist and the Native American monitor as well.

The area in the project disturbance limits near or adjacent to the ESA boundary will be monitored continuously by the project archaeologist and a Native American monitor during all ground-disturbing and construction activities in this area.

The RCTC Resident Engineer will require the construction contractor to maintain the fencing/flagging throughout the entire construction period in this area. The project archaeologist will monitor the condition of the fencing/flagging monthly and will report the need for any repairs to that material to the RCTC Resident Engineer and the construction contractor.

8.3 LABORATORY ANALYSIS AND CURATION

Following fieldwork and prior to sorting and detailed attribute recording, collected artifacts will be inventoried and organized.

Cleaning

Prior to cataloging and analysis tasks, artifacts and specimens will be cleaned and stabilized. Specimens that will not be cleaned include selected lithic tools (for protein residue analysis).

For other artifacts, adhering dirt will be removed by dry brushing. Individual artifacts from each provenience will be placed in clean polyethylene bags along with identification tags produced on archivally stable adhesive labels.

Cataloging

Recovered data will be separated hierarchically into class, material, and object. Class separates artifacts and other data into such major categories as flaked stone, groundstone, ecofact, ceramic, and others. The second order, material, identifies the members of a class to the raw material of which they consist (e.g., chalcedony, obsidian, volcanic, quartzite, and granite, for stone artifacts). The final ordering variable, object, places the artifact into such categories as debitage, biface, or mano.

This information is recorded on the catalog form with the following additional data: count, weight, locale, and depth/level.

After the information is recorded, an artifact will be assigned a catalog number. After assigning catalog numbers, the artifacts will be given identification tags (produced on archivally stable adhesive labels) and placed in clean polyethylene zip bags. Each tag contains the catalog number along with other pertinent information, such as site number and provenience information. Bagged artifacts are stored in boxes with like materials, which are incorporated into the temporary curation system. The catalog will be entered into a computerized data management system for ease in sorting and manipulating data within and between sites.

Artifact Analysis

Following initial processing and interim curation, artifact and sample analyses will be completed. The recovered assemblages will be subjected to a variety of morphological, functional, technological, and typological analyses as appropriate to the data class and the nature of the assemblages.

8.3.1 Preparation for Permanent Curation

Following the completion of laboratory and analytical procedures, the project collection will be prepared for permanent curation according to 36 CFR 79 (Curation of Federally Owned and Administered Archaeological Collections). These regulations establish procedures and guidelines to manage and preserve collections. Materials to be curated include archaeological specimens and samples, field notes, maps, plans, profile drawings, special studies reports, project photographs, and a copy of the final report. The materials will be curated at an appropriate facility.

8.4 MONITORING REPORT

Upon completion of the construction monitoring and laboratory operations, the project archaeologist will produce a draft monitoring report documenting the monitoring results and the status of cultural resources. The report will include the following information: (1) dates of monitoring; (2) impacts to previously recorded cultural resources, if any; and (3) impacts to previously unrecorded cultural resources, if any. Photographic Records, and Artifact Record forms completed as a part of monitoring will be provided as appendices to the report. Department of Parks and Recreation 523 Series forms

will be provided for any newly recorded cultural resources found as a result of this project. The monitoring report will meet the requirements of reporting archaeological investigations as required under 36 CFR Part 800, that they are responsive to contemporary professional standards, and are in accordance with the Section 106 Programmatic Agreement and *Caltrans Standard Environmental Handbook, Volume 2, Cultural Resources*, and will be submitted to FHWA, Caltrans, the SHPO, and the Consulting Tribes for review and comment. All government comments will be addressed in a final report and submitted to the FHWA, Caltrans, the SHPO and the Consulting Tribes, as well as the Eastern Information Center at the University of California, Riverside.

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9.0 NATIVE AMERICAN CONSULTING PARTIES

9.1 NATIVE AMERICAN CONSULTATION

Consultation with Native American Tribes/groups and representatives has been ongoing for both the original 32 mi and the modified 16 mi version of the MCP. Per Stipulation VI of the MOA, "Consultation with Native American Tribes will continue pursuant to the confidential Protocols developed by each tribe and will continue until the Undertaking has been completed and all stipulations of the MOA are fulfilled."

On June 17, 2013, an informational meeting was held at the RCTC/Bechtel office in Riverside. The purpose of the meeting was to inform the Tribes of the current stage of the project, discuss the status of the MOA being prepared for the MCP project, and to request Tribal input regarding the mitigation measures being developed for the project. Native American groups that attended the meeting included the Gabrieleno/Tongva, the Morongo, the Pechanga, and the Soboba.

On June 20, 2013, Jacobs Engineering and LSA Associates, Inc. (LSA) gave a presentation regarding the MCP project to an inter-Tribal meeting held at the Morongo Community Center. Attending the meeting were representatives from the Morongo, the Soboba, the Agua Caliente Band, the San Manuel Band, the Torres-Martinez Desert Cahuilla Indians (Torres-Martinez), and the Twenty-Nine Palms Band of Mission Indians (Twenty-Nine Palms Band). A discussion regarding the MOA and Tribal participation was held after the presentation. During the discussion, two Tribes that had dropped out of the consultation process over the years requested to be active participants in consultation again: the Agua Caliente Band and the San Manuel Band. The Torres-Martinez said they would like to give input regarding the landscape/ethnographic study and continue to be informed and notified of project developments. The Twenty-Nine Palms Band stated that they would like to receive project updates and notifications on an informational basis. The Morongo requested a field visit to the sites that will be affected in advance of the July 17, 2013, deadline for providing input to RCTC prior to completion of the MOA. This was agreed to by the Soboba, the Agua Caliente Band, and the San Manuel Band.

On July 2, 2013, LSA met with representatives from the Ramona Band. The purpose of the meeting was to update the Ramona Band regarding the status of project. The meeting was held at the Ramona Tribal Administration Office.

On July 12, 2013, LSA met with the Pechanga cultural resources team. This meeting was a follow up to an MCP Native American Informational Meeting that took place on June 17, 2013. During that meeting, LSA was invited to the Pechanga Cultural Resources Center to discuss the history of the project area, and to view a presentation on the Tribe's extensive research and archives. On July 12, 2013, the Pechanga cultural resources team sent a letter to Caltrans and RCTC containing comments on the proposed MOA.

Per the Morongo's request at the June 20, 2013, inter-Tribal meeting, RCTC hosted a field visit on July 15, 2013 to view the four bedrock milling sites that will be impacted, as well as their context in

the larger landscape surrounding the project APE. All of the consulting Tribes were invited: the Agua Caliente, the Cahuilla Band of Indians, the Gabrieleno/Tongva, the Gabrielino Tongva Nation, the Morongo, the Pechanga, the Ramona, the San Manuel Band, and the Soboba. Representatives from the Morongo, the San Manuel, and the Ramona attended the field visit, as did Caltrans, Jacobs Engineering, and LSA.

Consultation with all of the consulting Tribes continued throughout the development of the MOA and this DMP. This included an informational meeting at the RCTC/Bechtel office in Riverside on October 29, 2013, attended by representatives from the Agua Caliente, the Morongo, the Pechanga, the Ramona, the San Manuel, the Soboba, the FHWA, the RCTC, Caltrans, Jacobs Engineering, LSA, and Holon Consulting (a facilitator hired to assist the MOA consultation process).

The MOA that included all of the attachments was distributed to the consulting Tribes for review and comment on November 8, 2013.

Consultation meetings were held at the Bechtel Office in Riverside on:

- November 18, 2013, attended by the Pechanga, the FHWA, the RCTC, Caltrans, Jacobs, LSA, and Holon Consulting.
- November 18, 2013, attended by the Morongo, the FHWA, the RCTC, Caltrans, Jacobs, LSA, and Holon Consulting.
- November 19, 2013, attended by the Soboba, the FHWA, the RCTC, Caltrans, Jacobs, LSA, and Holon Consulting.
- November 19, 2013, attended by the Ramona, the FHWA, the RCTC, Caltrans, Jacobs, LSA, and Holon Consulting.

On November 21, 2013, a meeting was held at the Lake Perris State Recreation area. The meeting was attended by representatives of the Lake Perris State Recreation Area, the Morongo, the Pechanga, RCTC, Jacobs, and LSA. The purpose of the meeting was to discuss archaeological resources in the Lake Perris vicinity that the Morongo is concerned could be affected by either MCP or Lake Perris operations.

Comments were received from the San Manuel, the Morongo, the Pechanga, the Ramona, and the Soboba on December 5, 11, 12, 17, and 17, 2013, respectively. The Agua Caliente responded by letter dated December 16, 2013, to state that they currently have no comments on the MOA; however, it will need to be presented to the Tribal Council for concurrence.

Consultation meetings with the San Manuel, the Morongo, the Pechanga, the Ramona, and the Soboba were held to discuss their comments as follows:

- A consultation teleconference was attended by the San Manuel, the FHWA, the RCTC, Caltrans, Jacobs, LSA, and Holon Consulting on December 6, 2013.
- A consultation meeting attended by the Pechanga, the FHWA, the RCTC, Caltrans, Jacobs, LSA, and Holon Consulting was held at Pechanga on December 16, 2013.

- A consultation meeting attended by the Morongo, the FHWA, the RCTC, Caltrans, Jacobs, LSA, and Holon Consulting was held at Morongo on December 16, 2013.
- A consultation meeting attended by the Soboba, the FHWA, the RCTC, Caltrans, Jacobs, LSA, and Holon Consulting was held at Soboba on December 17, 2013.
- A consultation meeting attended by the Ramona, the FHWA, the RCTC, Caltrans, Jacobs, LSA, and Holon Consulting was held at Ramona on December 17, 2013.
- A meeting between the Pechanga and LSA took place on January 3, 2014, at LSA's Riverside office. The purpose of the meeting was to discuss additional comments and concerns on this DMP and the Cultural Landscape Study.

The MOA was submitted to the consulting Tribes for a final 10-day review on April 4, 2014. Per a request from Pechanga to discuss several matters further, the FHWA spoke with Tribal representatives by phone on April 23 and 28, 2014. No additional consultation was requested by any of the consulting Tribes.

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10.0 REFERENCES CITED

- Ahlering, Michael L., Theodore G. Cooley, and N. Jeanne Munoz
1971 Excavation and Analysis of 4-ORA-291: A Coastal Shell Midden. Archaeological Research, Inc. Ms. on file, South Central Coastal Archaeological Information Center, California State University, Fullerton.
- Antevs, Ernst
1955 Geologic-Climatic Dating in the West. *American Antiquity* 20(4):317–335.
- Avina, Rose H.
1932 Spanish and Mexican Land Grants in California. Unpublished Masters Thesis, Department of History, University of California, Berkeley.
- Balls, Edward K.
1962 *Early Uses of California Plants*. California Natural History Guides: 10. University of California Press.
- Bancroft, Hubert Howe
1884 *History of California* Vol. I. A. L. Bancroft & Co., Publishers, San Francisco.
- Basgall, Mark E.
2004 Resource Intensification Among Hunter-Gatherers: Acorn Economies in Prehistoric California. In *Prehistoric California Archaeology and the Myth of Paradise*, pp. 86–98. Edited by Mark Raab and Terry L. Jones. University of Utah Press. Salt Lake City, Utah.
- Bean, Lowell John
1978 Cahuilla. In *California*, edited by R. Heizer, pp. 575–587. Handbook of North American Indians, Vol. 8. W. C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.
- Bean, Lowell John, and Katherine Siva Saubel
1972 *Temalpakh: Cahuilla Indian Knowledge and Uses of Plants*. Malki Museum Press, Banning, CA.
- Bean, Lowell John, and Florence C. Shippek
1978 Luiseño. In *California*, edited by R. Heizer, pp. 550–563. Handbook of North American Indians, vol. 8. W.C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Bean, Lowell John, and Charles R. Smith

1978a Cupeño. In *California*, edited by R. Heizer, pp. 588–591. Handbook of North American Indians, vol. 8. W. C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

1978b Gabrielino. In *California*, edited by R. Heizer, pp. 538–549. Handbook of North American Indians, vol. 8. W. C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Beattie, George William, and Helen Pruitt Beattie

1939 *Heritage of the Valley: San Bernardino's First Century*. San Pasqual Press, Pasadena, California.

Beck, Warren A., and Ynez D. Haase

1975 *Historical Atlas of California*. Second Printing. University of Oklahoma Press.

Bergin, Kathleen Ann, and David D. Ferraro

1999 Historic Properties Treatment Plan: Geotechnical Investigations of the CP Alignment of the Foothill Transportation Corridor—South, Orange and San Diego Counties, California. LSA Associates, Inc. Ms. on file, LSA Associates, Inc., 20 Executive Park, Suite 200, Irvine, California, 92614; Southwest Division, Naval Facilities Engineering Command, 1220 Pacific Highway, San Diego, California; and AC/S Environmental Security Office, MCB Camp Pendleton, California.

Bettinger, Robert L.

1974 Dating the Perris Reservoir Assemblages. In J. O'Connell et al., Perris Reservoir Archaeology: Late Prehistoric Demographic Change in Southeastern California, pp. 159–162. State of California, Department of Parks and Recreation, Cultural Resources Section. Ms. on file, Eastern Information Center, University of California, Riverside (RI-0137).

Bright, William

1998 *1500 California Place Names: Their Origin and Meaning*. Berkeley and Los Angeles: University of California Press.

Brown, James T.

1985 *Harvest of the Sun: An Illustrated History of Riverside County*. Windsor Publications, Northridge California.

Burt, William Henry, and Richard Philip Grossenheider

1952 *A Field Guide to the Mammals*. Peterson Field Guide Series No. 5. Boston Houghton Mifflin Co.

Cannon, Amanda and Michael Lerch

2007 Archaeological Site Record for Site 33-16598. Document on file, California Historical Resources Information System, Eastern Information Center, University of California, Riverside.

- Cleland, Robert Glass
1962 Introduction. In Hoover et al., *Historic Spots in California*, pp. xi-xiv. Fourth printing revised by R. Teiser. Stanford University Press.
- Cotterman, Cary D., Jay K. Sander, Evelyn N. Chandler
2004 State of California Site Record Form for Site 33-14109. Ms. on file, Eastern Information Center, University of California, Riverside.
- Cottrell, Marie, Constance Cameron, Vada Drummy-Chapel, Theodore Cooley, and Adella Schroth
1985 Archaeological Investigations Conducted at the Newland House Site (CA-ORA-183), Huntington Beach, California. *Pacific Coast Archaeological Society Quarterly* 21(1):1-74.
- Davis, Emma Lou, C.W. Brott, and David L. Weide
1969 The Western Lithic Co-Tradition. *San Diego Museum Papers* 6. San Diego, California.
- Davis, James T.
1961 Trade Routes and Economic Exchange Among the Indians of California. *Reports of the University of California Archaeological Survey No. 54*. Berkeley, California.
- de Portolá, Gaspar
1909 Diary of Gaspar de Portolá during the California Expedition 1769-1770. Edited by Donald Eugene Smith and Frederick J. Teggart. *Publications of the Academy of Pacific Coast History* 1(3).
- Delu, Antonina, and Fred Lange
2011 Archaeological Evaluation Report for Archaeological Site 33-16598 (CA-RIV-8702) Mid County Parkway, Riverside County, California. Ms. on file, Eastern Information Center, Department of Anthropology, University of California, Riverside.
- DeVries, Dave
2004 A Geotechnical Report on the McSweeny Farms Specific Plan Area. On file at LSA Associates, Inc. 1500 Iowa Avenue, Suite 200, Riverside, California 92507.
- Dibblee, Thomas W. Jr.
1982 Geologic Map of the Hemet 15' Quadrangle, California. South Coast Geological Society Map Series. Scale 1:62,500.
- DuBois, Constance Goddard
1908 The Religion of the Luiseño Indians of Southern California. University of California Publications in *Archaeology and Ethnology* 8(3):69-186.
- Ericson, Jonathon E.
1977 Egalitarian Exchange Systems in California: A Preliminary View. In T. Earle and J. Ericson eds., *Exchange Systems in Prehistory*, pp. 109-126. San Diego: Academic Press, Inc.

- Erlandson, Jon M.
1994 *Early Hunter-Gatherers of the California Coast*. New York: Plenum Press.
- Fenenga, Franklin
1953 The Weights of Chipped Stone Points A Clue to their Functions. *Southwestern Journal of Anthropology* 9(3):309–333.
- Font, Pedro
1913 The Anza Expedition of 1775–1776, Diary of Pedro Font. Edited and translated by Frederick J. Teggart. University of California, Berkeley. Publications of the Academy of Pacific Coast History.
- Glassow, Michael A., Larry R. Wilcoxon, and Jon M. Erlandson
1988 Cultural and Environmental Change during the Early Period of Santa Barbara Channel Prehistory. In *The Archaeology of Prehistoric Coastlines*, ed. By G. Bailey and J. Parkington, pp. 64–77. Cambridge University Press.
- Gudde, Erwin G.
1998 *California Place Names: The Origin and Etymology of Current Geographical Names*. Fourth edition, revised and enlarged by William Bright. Berkeley and Los Angeles: University of California Press.
- Gunther, Jane Davis
1984 *Riverside California Place Names: Their Origins and Their Stories*. Riverside: Rubidoux Printing Company.
- Heizer, Robert F., and Albert B. Elsasser
1980 *The Natural World of the California Indians*. University of California Press, Berkeley and Los Angeles.
- Hester, Thomas R., Harry J. Shafer, and Kenneth L. Feder
1997 *Field Methods in Archaeology*. Seventh Edition. McGraw-Hill Mayfield: New York.
- Holland, Robert F.
1986 *Preliminary Descriptions of the Terrestrial Natural Communities of California*. Non-game Heritage Program. State of California, Department of Fish and Game. Sacramento, California.
- Hoover, Mildred Brooke, Hero Eugene Rensch, and Ethel Grace Rensch
1962 *Historic Spots in California*. Fourth printing revised by R. Teiser. Palo Alto, California: Stanford University Press.
- Hubbell, S.P.
2001 *The Unified Natural Neutral Theory of Biodiversity and Biogeography*. Princeton, NJ: Princeton University Press.

- Hudson, D. Travis, Thomas Blackburn, Rosario Curletti, and Janice Timbrook
1977 *The Eye of the Flute: Chumash Traditional History and Ritual as Told by Fernando Librado Kitsepawit to John P. Harrington*. Santa Barbara Museum of Natural History.
- Hughes, Richard, and Delmar L. True
1985 Perspectives on the Distribution of Obsidian in San Diego County, California. *North American Archaeologist* 6(4):325–339.
- Jackson, Robert, Michael Boynton, William Olsen, and Richard Weaver
1988 California Resource Identification and Data Acquisition Program: Sparse Lithic Scatters. Sacramento: Office of Historic Preservation.
- Jackson, T.L.
1991 Pounding Acorn: Women's Production as Social and Economic Focus. In *Engendering Archaeology: Women and Prehistory*, ed. by J. Gerow, and M. Conkey, pp. 301–325. Cambridge, Mass.: Basil Blackwell Publishers.
- Jaeger, Edmund C., and Arthur C. Smith
1971 *Introduction to the Natural History of Southern California*. California Natural History Guides: 13. Los Angeles: University of California Press.
- James, Harry C.
1960 *The Cahuilla Indians*. Los Angeles: Westernlore Press. Reprinted in 1969 and 1985 by Malki Museum Press. Banning, California.
- Jochim, Michael A.
1988 Optimal Foraging and the Division of Labor. *American Anthropologist* 90:130–135.
- Johnston, Bernice E.
1962 *California's Gabrielino Indians*. Frederick Webb Hodge Anniversary Fund Publication No. 8. Los Angeles: Southwest Museum.
- Jones, Terry L.
1991 Marine-Resource Value and the Priority of Coastal Settlement: A California Perspective. *American Antiquity* 56:419–443.

1996 Mortars, Pestles, and Division of Labor in Prehistoric California: A View from Big Sur. *American Antiquity* 61(2):243–264.
- Joyce, Rosemary, and Cheryl Claassen
1997 Women in the Ancient Americas: Archaeologists, Gender, and the Making of Prehistory. In *Women in Prehistory*, edited by Cheryl Claassen and Rosemary Joyce, pp. 1–14. Philadelphia: University of Pennsylvania Press.
- Justice, Noel D.
2002 *Stone Age Spear Points and Arrowheads of California and the Great Basin*. Indiana University Press.

Kelly, Robert L.

- 1985 *Hunter-Gatherer Mobility and Sedentism: A Great Basin Study*. Unpublished Ph.D. Dissertation, Department of Anthropology, University of Michigan.

Kelly, Robert L., and Lawrence C. Todd

- 1988 Coming into the Country: Early Paleoindian Hunting and Mobility. *American Antiquity* 53:231–244.

King, Chester D.

- 1981 The Evolution of Chumash Society: A Comparative Study of Artifacts used in Social System Maintenance in the Santa Barbara Channel Region before AD 1804. PhD dissertation. Department of Anthropology, University of California, Davis.

Kirby, Matthew E., Steve P. Lund, and Christopher J. Poulsen

- 2005 Hydrologic variability and the onset of modern El Nino-Southern Oscillation: a 19,250-year record from Lake Elsinore, southern California. In *Journal of Quaternary Science* 20 (3): 239–254.

Koerper, Henry C., and Christopher E. Drover

- 1983 Chronology Building for Coastal Orange County: The Case from CA-Ora-119-A. *Pacific Coast Archaeological Society Quarterly* 19(2):1–34.

Koerper, Henry C., Paul E. Langenwaller II, and Adella Schroth

- 1988 The Putuidem Project: Archaeological Investigations at CA-ORA-855. Ms. on file, South Central Coastal Archaeological Information Center, California State University, Fullerton.

Koerper, Henry C., Roger D. Mason, and Mark L. Peterson

- 2002 Complexity, Demography, and Change in Late Holocene Orange County. In *Catalysts to Complexity—Late Holocene Societies of the California Coast*, edited by J. Erlandson and T. Jones, pp. 63–81. *Perspectives in California Archaeology*, Volume 6. Series Editor, J. Arnold. Cotsen Institute of Archaeology, University of California, Los Angeles.

Kroeber, Alfred A., and S. A. Barrett

- 1960 Fishing among the Indians of Northwestern California. *University of California Anthropological Records* 21:1–210.

Kroeber, Alfred L.

- 1925 Handbook of the Indians of California. *Bureau of American Ethnology Bulletin* 78. Washington, D.C.: Smithsonian Institution. (Reprinted in 1976. New York: Dover Publications, Inc.).

Lerch, Michael K., and Amanda C. Cannon (editors)

- 2008 Mystic Paavo': Cultural Resources Survey and Evaluation of the Villages of Lakeview Specific Plan, Riverside County, California. Technical Report 05-34, Statistical Research, Redlands. Submitted to County of Riverside, Transportation and Land Management Agency, Planning Department, Riverside, California.

Lowman, Hubert A.

- 1993 *The Old Spanish Missions of California*. Third printing. Edited by Martha H. Lowman. Lawson Mardon Group Publishers.

Maslin, Prentiss

- 1911 Counties in California. Appendix in *California, Its History and Romance*, pp. 309-322. Los Angeles: Grafton Publishing Co.

McCawley, William

- 1996 *The First Angelinos, the Gabrielino Indians of Los Angeles*. Banning: Malki Museum Press and Novato: Balleno Press.

McGroarty, John S.

- 1911 *California, Its History and Romance*. Los Angeles: Grafton Publishing Company.

Meighan, Clement W.

- 1954 A Late Complex in Southern California Prehistory. *Southwestern Journal of Anthropology* 10(2):215-227.

Minor, Rick

- 1975 The Pit-and-Groove Petroglyph Style in Southern California. *Ethnic Technology Notes* No. 15. Ballena Press, San Diego.

Mix, Carol L.

- 1974 Bone and Shell Artifacts. In J. O'Connell et al., *Perris Reservoir Archaeology: Late Prehistoric Demographic Change in Southeastern California*, pp. 138-142. State of California, Department of Parks and Recreation, Cultural Resources Section. Ms. on file, Eastern Information Center, University of California, Riverside (RI-0137).

Moratto, Michael J.

- 1984 *California Archaeology*. San Diego: Academic Press.

National Weather Service

- 2008 Climate report for Riverside, California. Retrieved June 16, 2008, from <http://www.weather.gov/climate/index.php?wfo=sgx>.

Norris, R.M., and R.W. Webb

- 1976 *Geology of California*. New York: John Wiley and Sons, Inc., p. 379.

Oberbauer, Thomas

- 1996 *Terrestrial Vegetation Communities in San Diego County Based on Holland's Descriptions*. San Diego Association of Governments. San Diego.

Oxendine, Joan

- 1983 The Luiseño Village During the Late Prehistoric Era. Unpublished PhD Dissertation, Department of Anthropology, University of California, Riverside.

- Parr, Robert E., and Mark Q. Sutton
1991 "Invisible" Archaeological Deposits at Small Milling Sites. *Journal of California and Great Basin Anthropology* 13(2):279–283.
- Preston, R.N.
1988 *Early California Atlas – Southern Edition*. Second edition. Portland, Oregon: Binford & Mort Publishing Co.
- Renfrew, Colin, and Paul Bahn
1991 *Archaeology: Theories, Methods, and Practice*. New York: Thames and Hudson.
- Reynolds, R.E., and R.L. Reynolds,
1991 The Pleistocene beneath our feet: near-surface Pleistocene fossils in inland southern California basins, in *Inland Southern California: the last 70 million years*, M. Woodburne, R. Reynolds, and D. Whistler, eds. *San Bernardino County Museum Special Publication* 38(3&4):41–43.
- Robinson, W.W.
1979 *Land in California*. Berkeley and Los Angeles: University of California Press.
- Rockman, Marcy, and Michael K. Lerch (editors)
2005 *Mystic Paavo'*: Cultural Resources Survey and Evaluation of the Villages of Lakeview Specific Plan, Riverside County, California. Technical Report 05-34 (Draft), Statistical Research, Redlands. Submitted to County of Riverside, Transportation and Land Management Agency, Planning Department, Riverside, California.
- Rogers, David Banks
1929 *Prehistoric Man of the Santa Barbara Coast*. Santa Barbara Museum of Natural History.
- Rogers, T.H.
1965 *Geologic Map of California, Santa Ana Sheet*. California Division of Mines and Geology. Scale 1:250,000.
- Ross, Lester A.
1970 4-Ora-190: A Descriptive Site Report of a Late Prehistoric Horizon Site in Orange County. *Pacific Coast Archaeological Society Quarterly* 6 (2&3).
- Schoenherr, Allan A.
1992 *A Natural History of California*. University of California Press, Berkeley and Los Angeles.
- Shackley, M. Steven
1987 Prehistory. In *Cultural and Paleontological Resources Survey for U.S. Sprint Fiber Optic Cable Project: Rialto, California to Las Vegas, Nevada*, by C. Woods, M. Shackley, R. Apple, J. Wooley, and R. Roberts, pp. 11–43. Dames and Moore. Ms. on file, South Coastal Information Center, San Diego State University, San Diego, California.

- Shipley, William F.
1978 Native Languages of California. In R. Heizer ed., *Handbook of North American Indians*, Vol. 8, *California*, pp. 80–90. Smithsonian Institution, Washington, D.C.
- Shumway, Burgess McK.
1988 *California Ranchos: Patented Private Land Grants Listed by County*. Edited by Michael and Mary Burgess. Stokvis Studies in Historic Chronology and Thought 11. The Borgo Press, San Bernardino and the Sidewinder Press, Glendale, California.
- Springer, K.B., and E. Scott
1994 First record of late Pleistocene vertebrates from the Domenigoni Valley, Riverside County, California. *Journal of Vertebrate Paleontology* 14 (supplement to 3):47A.
- Strudwick, Ivan H.
2004 CA-ORA-269: A Rockshelter Habitation in the San Joaquin Hills of Coastal Southern California. Presented at the Meeting of the Society for California Archaeology. Riverside, California. March 19, 2004.
- Strudwick, Ivan H., and Henry C. Koerper
2006 A Unique Turtle Shell Effigy from CA-ORA-269. *Proceedings of the Society for California Archaeology* 19:145–150.
- Strudwick, Ivan H., and Kathleen Ann Bergin
1999 Archaeological Survey, Testing, and Evaluation of Sites CA-RIV-101/H, CA-RIV-2992, CA-RIV-6152/H, and CA-RIV-6153 for the Temescal Summit Project, Riverside County, California. LSA Associates, Inc. Ms. on file, South Central Coastal Archaeological Information Center, California State University, Fullerton.
- Thomas, David Hurst
1983 The Archaeology of Monitor Valley: Epistemology. *Anthropological Papers at the American Museum of Natural History* 58(1).
- Tobey, Ronald, and Charles Wetherell
1995 The Citrus Industry and the Revolution of Corporate Capitalism in Southern California, 1887–1944. *California History*, no. 74: 2–45.
- True, Delbert L.
1958 An Early Complex in San Diego County, California. *American Antiquity* 23(3):255–263.

1966 Archaeological Differentiation of Shoshonean and Yuman Speaking Groups in Southern California. (Unpublished PhD Dissertation in Anthropology, University of California, Los Angeles.)

1970 Investigations of a Late Prehistoric Complex in Cuyamaca Rancho State Park, San Diego County, California. Los Angeles: University of California, Archaeological Survey, Department of Anthropology.

True, Del L., Clement W. Meighan, and Harvey Crew

- 1974 *Archaeological Investigation at Molpa, San Diego County, California*. University of California Archaeological Survey, Department of Anthropology.

United States Department of Commerce

- 2002 *Climatography of the United States No. 81. Monthly Station Normals of Temperature, Precipitation, and Heating and Cooling Degree Days 1971–2000. 04 California*. National Oceanic and Atmospheric Administration; National Environmental Satellite, Data, and Information Service; National Climatic Data Center; Asheville, North Carolina.

United States Geological Survey (USGS)

- 1901 *Elsinore 30-minute Quadrangle*. U.S. Geological Survey, Denver, Colorado. Map on file, Eastern Information Center, University of California, Riverside.

Wagner, Henry R.

- 1941 *Juan Rodriguez Cabrillo: Discoverer of the Coast of California*. San Francisco: California Historical Society.

Wallace, Edith

- 1978 Sexual Status and Role Differences. In *California*, edited by R. Heizer, pp.683–689. Handbook of North American Indians, vol. 8. W.C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Wallace, William J.

- 1955 A Suggested Chronology for Southern California Coastal Archaeology. *Southwestern Journal of Anthropology* 11(3):214–230.
- 1962 Prehistoric Cultural Development in the Southern California Deserts. *American Antiquity* 28(2):172–180.
- 1978 Post-Pleistocene Archaeology. In *California*, edited by R. Heizer, pp. 550–563. Handbook of North American Indians, vol. 8. W.C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.
- 1980 A Turtle Shell Rattle from Long Beach. *The Masterkey* 54:102–107.

Walters, Wendy

- 2011 Natural Environment Study for the Mid County Parkway, Riverside County, California, Caltrans District 8, EA# 08-0F3200 (PN 0800000125) 08-RIV-MCP PM 0.0/16.3; 08-RIV-215 PM 28.0/34.3 LSA Associates, Inc. Ms. on file, Caltrans, District 8, Riverside County, and LSA Associates, Riverside, California.

- Warren, Claude N.
1968 Cultural Tradition and Ecological Adaptation on the Southern California Coast. *Archaic Prehistory in the Western United States, Contributions in Anthropology*, 1 (3):1–14.
- 1984 The Desert Region. In M.J. Moratto, *California Archaeology*, pp. 339–430. San Diego: Academic Press, Inc.
- 1986 *Fort Irwin Historic Preservation Plan, Volume 2: The Research Overview*. Coyote Press, Salinas, California. Copies also available from National Park Service-Western Region, San Francisco, and from the National Technical Information Service, Washington, D.C.
- Warren, Claude N., and Robert H. Crabtree
1986 Prehistory of the Southwestern Area. In *Great Basin*, edited by W. D'Azevedo, pp. 183–193 *Handbook of the North American Indians*, Vol. 11. W. C. Sturtevant, general editor. Washington, D.C.: Smithsonian Institution.
- West, G. James, Wallace Woolfenden, James A. Wanket, and R. Scott Anderson
2007 Late Pleistocene and Holocene Environments. In *California Prehistory*, edited by T. L. Jones and K. A. Klar, pp. 11–34. Lanham, MD: Alta Mira Press.
- Western Regional Climate Center
2008 San Jacinto, CA Period of Record Monthly Climate Summary. Retrieved June 18 from <http://www.wrcc.dri.edu/summary/climsmca.html>.
- White, Raymond C.
1963 Luiseño Social Organization. University of California. *Publications in American Archaeology and Ethnology*. 48(2):91–194.
- Wilke, Philip J.
1978 Late Prehistoric Human Ecology at Lake Cahuilla, Coachella Valley, California. *Contributions of the University of California Archaeological Research Facility No. 38*.
- Willey, Gordon R.
1953 *Prehistoric Settlement Patterns in the Viru Valley, Peru*. Bulletin 153. Bureau of American Ethnology, Washington, D.C.
- Willoughby, N.C.
1963 Division of Labor among the Indians of California. *University of California Archaeological Survey Reports* 60:7–79.
- Winterbourne, John W.
1940 Report of the Goff's Island Site Excavation, May 1, 1939 to January 22, 1940. Works Progress Administration Anthropological Project #11224-0. Ms. on file, Rancho Santiago Community College Library.

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